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Abstracts that are not being presented do not appear.

### 3567

#### PATIENT AND FAMILY NEEDS AND EXPECTATIONS DURING AN INPATIENT ONCOLOGY EXPERIENCE.

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Hospitalization for either the treatment of cancer or side effect management is an extremely stressful time for both the patient and caregiver. Regardless of the advances in cancer diagnosis/treatment and transition to outpatient care, there will continue to be inpatient care settings. Few studies have focused on identification of the needs of patients and their families in this environment.

One of the ONS priorities for research is in the area of family caregiving and the family group. The purpose of this study was to determine the needs of patients as well as family members during an inpatient oncology admission. Since patient satisfaction scores do not specifically focus on oncology-specific issues, this study was designed to not only identify needs but also focus on the ability of staff/structure of the inpatient unit in a community hospital setting to meet these needs.

An exploratory-descriptive design was used to identify the needs and expectations of hospitalized, adult-oncology patients and their family members. The participants were asked to complete a survey ranking the importance of perceived needs on a 5 point Likert scale as well as how adequately those needs were met on a met/partially met and did not meet basis. Descriptive statistics were used to calculate the perceived needs and expectations. Rank order based on the average score for each item was used to list the perceived needs, with the percent of subjects whose needs had been met (met, partially met, not met at all).

Most important needs identified by both patients and families related to their need for information and communication about their medical care. Surprisingly less important needs were continuity of nursing care and need for support from non-family members. Patient and family rating of satisfaction with the unit's ability to meet their needs pointed to opportunities with orientation to unit structure and provider care team in a community hospital setting as well as clearer opportunities to involve the family in discussions regarding side effect management.

### 3576

#### OPTIMIZING VITAMIN D STATUS TO REDUCE COLORECTAL CANCER RISK: A REVIEW OF EVIDENCE.

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Vitamin D deficiency is common in both the general public and oncology population. Optimizing vitamin D status is increasingly recognized in cancer risk reduction, with specific evidence of substantial decrease in colorectal cancer (CRC) risk. Therefore, it is important to summarize the current clinical evidence to promote the best practice.

The primary objective of this evidentiary review is to examine the current research evidence regarding vitamin D's impact on CRC risk reduction. The secondary objective is to provide practice recommendations for clinicians.

Following a literature search, research articles from 2002-2008 were retrieved from varieties of electronic databases. Reference lists of relevant articles were also manually searched. Twenty-four research reports were selected for review, including four studies from randomized clinical trials (RCTs), ten cohort or case-control studies measuring serum 25-OH-D level as the main research variable, and ten cohort studies reporting vitamin D intakes.

Result: Higher vitamin D intakes, in general, were found to decrease CRC risk. Effective vitamin D intakes that raise 25-OH-D level to the vitamin D sufficient state of 32-100ng/mL were shown to reduce CRC risk by about 40-60%. Vitamin D 1000 IU daily is safe and likely sufficient to raise 25-OH-D level into the range required to achieve CRC risk reduction. Practice recommendations, such as counseling patients about vitamin D intakes, correcting vitamin D deficiency and maintaining 25-OH-D level in the range of 32-100ng/mL, are supported by this review.

Implication and Conclusion: Considering that over 50% of Americans and 80% of cancer survivors are taking dietary supplements without clinical advice and acknowledging the overall safety profile of vitamin D and its wide range of health benefits, it is reasonable to make practical recommendations of vitamin D 1000 IU daily. Besides, it is important to correct vitamin D deficiency and to maintain an optimal 25-OH-D level range. However, using effective doses of vitamin D in longitudinal RCTs with large population-based samples is needed for more definitive evidences. At present, clinicians must consider the current evidences, patients' condition and preferences, and use own clinical judgment when addressing the need for vitamin D supplementation for their patients.

### 3586

#### NURSING CARE OF IV/VASCULAR CONNECTORS BASED ON CONNECTOR TYPE.

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Intravenous and vascular access connectors are important in oncology nursing practice as they are used in administering fluids, blood products, medications and chemotherapy. Connectors can also cause patient problems due to blood backup into the connector causing partial or complete occlusions and/or catheter related bloodstream infections (CRBSIs), either intra-luminal or extra-luminal. We have developed a basic chart related to 3 major types of connectors (positive, negative, neutral pressures) used in the clinical setting and staff nursing maintenance guidelines based on the literature that proper disconnect care may decrease or avoid occlusions and CRBSIs.

The goal was to develop a basic maintenance care guide on disconnection for staff nurses who use connectors in patient care. The setting can be in-patient, out-patient, or community care. The avenue of connector use can be intravenous or vascular access. Oncology nurses utilize connectors multiple times, every day, on each patient and need to base their care related to disconnection on the type of connector used.

A pocket guide was developed based on previous research that revealed 78% of staff nurses did not know there were different types of connectors and 30% believed the maintenance was the same for all types. The guides are available for use from the authors and are free to be copied.

The nursing staff and intravenous teams of local hospitals found the guides easy to use and effective in implementing bedside care. The guide can be posted on medication carts, in medication rooms, in IV supply areas and in community and home health bags. The type of connector(s) used can be highlighted on the guide so the maintenance care during disconnection is easily identified for specific institutions or nursing units.

The maintenance of multiple manufacturer connectors should be based on guidelines that are connector technology specific. Involvement of the end user, staff nurses, is imperative to optimal patient care. This small intervention may be a major step in decreasing infections and occlusions in oncology patients requiring intravenous and vascular access.

### 3600

**REDUCING THE RISK OF LYMPHEDEMA: KNOWLEDGE, MOTIVATION, AND BEHAVIORS.** Mei Fu, RN, PhD, ACNS-BC, New York University, New York, NY; Judith Haber, PhD, APRN-BC, FAAN, New York University, New York, NY; Amber A. Guth, MD, NYU Clinical Cancer Center, New York, NY; Deborah Axelrod, MD, FACS, NYU Clinical Cancer Center, New York, NY

Despite advances in treatment, many breast cancer patients still face permanent disruption of their lymphatic system which predisposes them to the risk for lymphedema (swelling). Lymphedema exerts negative impact on patient's quality of life. Lack of research examining patients' lymphedema knowledge in relation to patients' motivation, behavioral skills, and practice of risk reduction behaviors has hindered our progress in identifying and developing effective strategies to reduce the risk of lymphedema.

The purpose of this study was to explore the relationships among patients' lymphedema knowledge, motivation, behavioral skills, and practice of risk reduction behaviors.

The study was based on the Information-Motivation-Behavioral [IMB] Model that emphasizes the need for patients to have adequate information relevant to a particular health issue (lymphedema risk) as the primary prerequisite to initiate a health behavior (lymphedema risk reduction behavior). Individual is viewed as an active participant in a behavioral change process. Accordingly, personal and social motivation and behavioral skills are essential for initiating and maintaining health behaviors (lymphedema risk reduction behaviors).

A cross-sectional design was used to collect data from 136 patients using a Demographic and Medical Information interview tool, Knowledge Test, and Lymphedema Risk Reduction: Motivation and Behavioral Skill, and Lymphedema Risk Reduction Behavior Checklist. Data analysis included descriptive statistics, correlation coefficients, and regression.

Participants with higher lymphedema knowledge had significantly higher behavioral skills ( $r=0.48$ ;  $p<0.000$ ); and significantly higher behavioral skills are associated with higher personal motivation ( $r=0.371$ ;  $p<0.000$ ) and social motivation ( $r=0.628$ ;  $p<0.000$ ). Importantly, more risk reduction behaviors were reported by participants with higher knowledge ( $r=0.49$ ;  $p<0.000$ ), higher behavioral skills ( $r=0.328$ ;  $p<0.000$ ), higher personal motivation ( $r=0.448$ ;  $p<0.000$ ) and social motivation ( $r=0.338$ ;  $p<0.000$ ). Knowledge is a significant predictor for behavioral skills while personal motivation for practice of risk reduction behaviors.

Findings of the study underscore that provision of lymphedema information is a critical dimension of risk reduction. Nurses and other healthcare professionals should consider taking initiatives to provide patients with adequate information to enhance lymphedema risk reduction.

### 3627

**ENHANCING THE ROLE OF THE MID-LEVEL PRIMARY CARE PROVIDER (MLP) IN THE CARE OF PATIENTS AFTER STEM CELL TRANSPLANTATION: PROPOSAL FOR AN EDUCATIONAL MODULE DIRECTED AT INTEGRATING PATIENTS BACK INTO THE COMMUNITY.** Mary Peterson, RN, ANP-BC, OCN®, Mayo Clinic Arizona, Phoenix, AZ; Jose Leis, MD, PhD, Mayo Clinic Arizona, Phoenix, AZ; Joseph Mikhael, MD, Mayo Clinic Arizona, Phoenix, AR

Autologous and Allogeneic Stem Cell Transplantation (ASCT) is a highly complex process used in treating various hematological malignancies. It requires intensive care of patients both during their hospital admission and in outpatient follow up. Primarily due to their immunosuppressed state, their close follow up is usually provided by the ASCT center; however, this results in a heavy burden of resource utilization which results in fewer patients having access to ASCT. Enhanced and more rapid integration of patients back into the primary care environment is desirable.

- (1) Create a curriculum designed to educate MLPs about the specific follow up needs of ASCT patients post transplant.
- (2) Disseminate a curriculum designed to educate MLPs about the specific follow up needs of ASCT patients post transplant.
- (3) Evaluate the curriculum by means of an objective assessment.

The curriculum will include the following:

- Overview of ASCT
- Recognition and treatment of chronic graft versus host disease (GvHD)
- Identification and monitoring of key infectious processes
- Management of immune system recovery
- Immunization requirements and schedules
- Recognition of late effects
- Original disease relapse recognition, testing and re-staging.

Integrating patients who have undergone an ASCT back into primary care is feasible through an intensive and directed education program for MLPs. We anticipate that this will likely result in better utilization of health care resources for the transplant center, enhanced communication between health care providers, and improved quality of care.

### 3628

**DELIVERING A CONSISTENT MESSAGE: STANDARDIZING AN AMBULATORY PRECEPTOR PROGRAM.** Rita Steinbauer, RN, BSN, OCN®, Duke University, Durham, NC; Laura Houchin, RN, MSN, OCN®, Duke University, Durham, NC; Judith Payne, PhD, RN, AOCN®, CS, Duke University School of Nursing, Durham, NC; Mark Waters, RN, MPH, OCN®, Duke University, Durham, NC; Parthey Conder, RN, Duke University, Durham, NC

Precepting a new nurse in a busy academic outpatient oncology infusion center can prove to be a nursing challenge. Our center treats an average of 120 patients daily so it is vital to teach evidence-based instruction in a standardized and efficient manner. Surveys conducted by our senior nursing staff indicated that the last four nurses oriented to our unit felt their learning experience did not provide consistent information regarding unit based competencies including chemotherapy administration. This inconsistent knowledge base led to inefficient nurse productivity and extended orientation time.

This presentation will discuss the development of a preceptor program that utilizes the most qualified and experienced nursing staff to develop a consistent unit-based preceptor program. Teaching/learning experiences that are implemented in the clinic setting will be highlighted.

Our unit based orientation program needed to change in two ways: 1) content and 2) evaluation. Our current orientation packet was restructured to delineate clear, measurable, and obtainable objectives for each day of the four week orientation. The preceptor was able to state if goals were met or needed to be revised at a weekly meeting with the nurse manager. The orienting nurse also

reviewed teaching objectives, weekly, with the nurse manager at a separate meeting. Problems were identified early and teaching plans altered to meet the nurse's needs. Nursing management selected preceptors systematically based on their oncology expertise, teaching capability and interpersonal approach. Each preceptor was instructed on expectations and teaching guidelines that needed to be met with each nurse orientee.

The program was recently implemented with 100% satisfaction from new orientees and their preceptors while 95% of the nursing staff surveyed felt the new orientees were performing more confidently and efficiently within our unit post orientation period.

By focusing on the delineation of the teaching objectives and systematically choosing unit based preceptors, we have created a consistent, quality orientation program. Nursing input in a new orientation format led to an increase in productivity and quality nursing care for our oncology patients.

### 3633

**IMPROVING SYMPTOM MANAGEMENT WITH AMBULATORY PATIENTS WITH A FOLLOW-UP PHONE CALL.** Laurel Courtney, RN, MS, AOCN®, Arthur G. James Cancer Hospital and Richard J. Solove Research Institute, Columbus, OH

A cancer diagnosis elicits a roller coaster of emotions. There is a perceived loss of control. Anxiety and emotional distress can impact the patients' ability to learn. Patients undergoing first time chemotherapy are given a chemotherapy packet and symptom management is reviewed with patient and family. In addition, phone numbers are given to patients and families to call if they experience problems after treatment. In reviewing patient satisfaction scores for chemotherapy infusion, it was noted that patients did not always feel they had received adequate education on symptom management.

The goal was to develop telephone callback form that all areas of Ambulatory could use to follow up on symptom management. Symptoms selected include: nausea/vomiting, temperature, wound site/drainage, diarrhea and pain. All Ambulatory infusion centers, procedures areas and ambulatory surgery units would use the form.

A review of literature found many areas of nursing employed telephone follow up as a way to manage patients. Calls allow for clarifying discharge instructions, collecting clinical outcomes data and the opportunity to intervene if necessary. Quality Council identified the patients that would receive a call 24-72 hours after their ambulatory visit. These included first time chemotherapy patients, first time procedures such as thoracentesis etc, and all minor procedures. Each unit developed a process for tracking when patients needed to be called back.

Eighteen months of SRBI patient satisfaction scores on symptom management and patient teaching were compared pre and post implementation of call back initiative. After implementation of call backs patient satisfaction for symptom management and patient education improved.

Quality Council is now looking to expand the call back initiative to inpatients upon discharge as well as patients discharged from the 23 hour stay unit. A work group will identify high risk populations that will be called. In addition, the form will be revised to add constipation as an additional symptom to follow up on. Standardizing the form allowed tracking outcomes for patients. Allowing each unit to develop their own process assisted with successful implementation of the initiative.

### 3634

**CREATING A FOUNDATION FOR ONCOLOGY NURSE PRACTITIONERS.** Michelle Brooker, RN, MS, CNP, James Cancer Hospital and Solove Research Institute, Columbus, OH; Jan Sirilla, BSN, MS, James Cancer Hospital and Solove Research Institute, Columbus, OH

Oncology Nurse Practitioner (NP) sub-specialty is offered by few academic universities in the United States. Overall demand

for NP's has increased exponentially in recent years and competition in recruiting has lead to new and creative ways for opening doors to educating NP students.

At our institution, a program was developed in collaboration with The Ohio State College of Nursing to offer an Oncology clinical rotation for students in the Graduate Entry Nurse Practitioner Program. The NP students spent their third clinical rotation with NP's at The James Cancer Hospital. Upon graduation these students were offered the opportunity to interview for open positions in the hospital.

Each student went through an application and interview process specific to the NP oncology program. They were required to have their registered nurse (RN) license and hired to work as a staff nurse the last year of their NP program. An extensive orientation was developed to help them adjust to their new staff nurse position. Early on, the students were introduced to an NP mentor to support the quick transition from RN to NP student. During clinicals they attended 20 didactic lectures specific to oncology and symptom management presented by oncology NPs from The James. The NP mentor continued to support them through board certification and the NP interview process.

The first year the program had 3 students. The program proved overall a success. Two were hired at the James and one moved out of town unexpectedly. The students viewed their oncology experience by far the best clinical rotation to help prepare them for their new NP roles. The institution also benefited. As these NP's were hired they already completed orientation, knew the computer system, and were familiar with oncology standards of care. Therefore the new NP's began functioning in their roles quicker with more confidence once they received their advanced license.

The development of an Oncology Graduate Entry NP program allowed the opportunity for students interested in the specialty to have exposure and an intense learning opportunity. This in turn allowed the hospital to recruit specialized NP's which increase employment retention and employee satisfaction.

### 3637

**ENHANCING PATIENT SATISFACTION BY DECREASING WAIT TIME: ONE CENTER'S STORY.** Mark Waters, RN, MPH, OCN®, Duke University Hospital, Durham, NC; Kimberly Camp, RN, BSN, OCN®, Duke University Hospital, Durham, NC; Helen Reich, RN, OCN®, Duke University Hospital, Durham, NC; Rita Steinbauer, RN, BSN, OCN®, Duke University Hospital, Durham, NC; Denise Lovold, RN, OCN®, Duke University Hospital, Durham, NC; Bethany Lewis, RN, OCN®, Duke University Hospital, Durham, NC

Historically, patient wait times in the outpatient chemotherapy infusion center have ranged from 45 minutes to several hours. Long wait times impact patient satisfaction, leading to increased stress and anticipatory symptoms, frustration and anxiety prior to treatment.

This presentation will discuss a short treatment clinic designed to minimize clinic wait times and improve patient satisfaction. Parameters for establishing this clinic and outcomes will be presented.

A short-treatment clinic housed within the infusion center was created for patients with infusion times lasting one-hour or less. Patients excluded from this clinic were first time infusions, vesicant infusions and first/second infusions of drugs with increased hypersensitivity. When patients check into the infusion center, the charge nurse reviews each chart and identifies those patients appropriate for the short treatment clinic. Patients are grouped in one area of the infusion center. The short treatment clinic is staffed with two nurses each day, who self-selected for this experience.

Over the past 12 months, 6,864 infusions were provided to patients using this new model of care. Of the approximately 33% of patients eligible for short treatment, about 85% of patients now receive their treatment in this area. A survey was administered to ascertain their satisfaction of their treatment experience prior



to and after the implementation of the short term infusion clinic. Survey results revealed overall that patients perceived their wait time to be less than one hour from previous wait times of two hours or greater.

Chemotherapy has a marked impact on the patient and family unit. Minimizing the amount of time patients wait for treatments provides the opportunity to influence their quality of life and clinical experience. To implement an optimal functioning short treatment clinic, it is imperative to have defined parameters for patients appropriate for this area as well as clinical staff who are committed to working in a fast-paced area. Use of a short term clinic can improve both patient satisfaction and clinic efficiency while continuing to focus on the individual patient needs and safety.

### 3638

**DESIGNING AN ACUITY TOOL FOR AN AMBULATORY ONCOLOGY SETTING.** Julie Delisle, BSN, MSN, RN, OCN®, Oncology Alliance, Wauwatosa, WI

Staffing needs in an ambulatory oncology infusion setting can be challenging. The workload of nurses and the time it takes to provide patient care are increasing. Being an eleven clinic private ambulatory oncology practice in southeastern Wisconsin, the majority of patient care occurs in the infusion rooms. With the addition of new targeted therapies and complicated treatment regimens that require closer monitoring, the infusion nurses felt that the increased patient complexity should be recognized when determining staffing on a daily basis. This dissatisfaction on the part of the nurses led to the development of a more efficient way to staff the infusion rooms.

The purpose of this project is to describe the development of an acuity tool for staffing infusion nurses based on the complexity of the patient treatments.

The project was implemented in two phases. The first phase, focusing on data collection by using the tool to assess types of nursing care delivered over a two month period of time and to revise the acuity tool based on identified need. The second phase was to use the tool on a daily basis to determine staffing levels for the infusion rooms.

The tool was based on a prototypical method of classification which assigned a level of acuity to each patient treatment. The nurses felt the tool provided a better representation of the acuity in the infusion rooms by connecting complexity of patient treatments with staffing on a daily basis.

This tool is easily adaptable to the ever changing treatment regimens for oncology care because it provides a base for assessing complexity of the patient treatment regimens. This acuity tool could be adapted to help better staff other ambulatory oncology clinics based on the treatments provided in that clinic.

### 3639

**SCRATCHING OUT THE EPIDERMAL GROWTH FACTOR RECEPTOR INHIBITOR RASH WITH A MULTIMODALITY ALGORITHM.** Kimberly Camp, RN, BSN, OCN®, Duke University Hospital, Durham, NC; Krista Rowe, MSN, CNS, AOCN®, Duke University Hospital, Durham, NC; Laura Houchin, MSN, CNS, AOCN®, Duke University Hospital, Durham, NC; Mark Waters, RN, MPH, OCN®, Duke University Hospital, Durham, NC; Sally Barbour-Yowell, PharmD, BCOP, Duke University Hospital, Durham, NC; Jennifer Tenhover, ANP, AOCN®, Duke University Hospital, Durham, NC; Howard Leigh, FNP-BC, Duke University Hospital, Durham, NC

Outpatient chemotherapy has progressed to a combination of targeted and cytotoxic therapies. Increased dermatological toxicities related to targeted therapies spearheaded the development of an algorithm for the management of epidermal growth factor receptor (EGFR) rashes. It is estimated that more than 50% of patients develop a mild to severe rash over the trunk, scalp, face

and upper extremities. Skin toxicities can lead to dose reductions and/or dose delays along with decreased quality of life (QOL). Patients may report significant pain and pruritus, anxiety related to body image changes, and socially isolate themselves due to the appearance of the rash. Approximately 32% of providers report discontinuing therapy due to rash.

The purpose of this project was to bring together a multidisciplinary group who could develop a clinical algorithm to guide patient care that would assist in minimizing dose delays/reductions and the negative impact on the patient's QOL.

A multidisciplinary team was brought together that conducted a literature review and collaborated on the development of a skin toxicity algorithm. Development of the algorithm was accomplished by nurse practitioners, pharmacists and nurses who were identified as key change agents within oncology. A patient educational tool was also developed to compliment the algorithm which reinforces self-care symptom management strategies for good skin health.

The algorithm is currently under review by the medical director, division chief, and the pharmacy and therapeutics committee for approval. Once the algorithm has been approved it will be disseminated to the staff in the clinics, infusion center, and pharmacy. Education and implementation of the algorithm and patient education materials is expected by March 2009.

Helping patients maintain their QOL by minimizing symptoms and teaching self-care strategies can assist in avoiding delays and dose reductions of recommended cancer therapies. A standardized and consistent regimen for managing skin toxicities will minimize progression and severity of the rash allowing optimal treatment and minimizing the negative cosmetic impact of therapy.

### 3640

**WEBCASTING AS AN EDUCATIONAL TOOL FOR ADULT HEALTH CARE PROVIDERS USING A PEDIATRIC-BASED CLINICAL TRIAL FOR ADOLESCENTS AND YOUNG ADULTS WITH ACUTE LYMPHOBLASTIC LEUKEMIA.** Maureen Haugen, RN, MS, CPNP, CPON®, Children's Memorial Hospital, Chicago, IL; Debbie Toomey, MSN, PNP, CPON®, City of Hope Medical Center, Duarte, CA; Patti Byron, RN, MSN, British Columbia Childrens Hospital, Vancouver, Canada

Overall survival rates for patients less than 15 years of age diagnosed with acute lymphoblastic leukemia (ALL) are currently greater than 80%. This number drops approximately by half in adolescents and young adults (AYAs). Recently, clinical research has shown that AYAs with ALL who are treated on pediatric clinical trials have improved outcomes compared to AYAs treated on clinical trials for adults. In response to this, the clinical trial CALGB 10403 was developed in which AYAs with newly diagnosed ALL are treated at adult institutions on a pediatric-based ALL regimen.

Most adult health care providers (AHCPs) are less familiar with pediatric ALL therapy. This session will describe a unique process of educating AHCPs about a new clinical trial available for AYA patients with ALL.

An educational module in webcast form was developed for AHCPs by members of the Children's Oncology Group Nursing Discipline, given their familiarity with pediatric clinical trials, which provided the framework for this protocol. There was contribution from 3 major adult oncology cooperative groups, as well. This easily accessible webcast (a powerpoint presentation with voiceover) discusses background information for the clinical trial, chemotherapy regimens, side effects and symptom management, and late adverse risks. It will be available through the internet to adult institutions with this clinical trial open and is designed for all providers caring for these patients: physicians, nurses, pharmacists and research assistants.

The educational module in webcast form will be available as of January, 2009. An evaluation form is linked to the webcast to assess the effectiveness of this type of educational tool.

By creating this new type of educational tool, the hope of all who contributed to this project is to make available to a broad audience of providers information about state of the art care for AYAs with ALL, in order to provide these patients optimal chance of survival. If evaluation of this tool shows that it is efficient and effective, the educational format of webcasting may be increasingly utilized in the future.

### 3641

**NURSING LEADERSHIP OF SUCCESSFUL CLINICAL TRIAL RECRUITMENT STRATEGIES TO AN NCCCP ENDORSED STUDY.** Camille Servodidio, RN, MPH, CRNO, OCN®, CRP, Hartford Hospital, Hartford, CT; Diane Neri, RN, OCN®, Hartford Hospital, Hartford, CT; Christie Ellison, RN, BSN, OCN®, Sanford Clinic, Sioux Falls, SD; Pam Williams, RN, MSN, CCRP, Spartanburg Regional Medical Center, Spartanburg, SC; Maria Gonzalez, BS, St. Joseph Hospital, Orange, CA; Donna Bryant, MSN, OCN®, ANP-C, CCRC, Mary Bird Perkins Cancer Center, Baton Rouge, LA; Brenda Duggan, RN, BSN, NCI CBIIT Community Center Informatics, Rockville, MD

The NCI Community Cancer Centers Program, NCCCP, is a three-year pilot project whose goal is to expand cancer research and deliver the latest most advanced cancer care to community settings where patients live. With input from the 16 participating NCCCP community hospitals, the NCCCP clinical trials working group endorsed the Wake Forest University, 07-02-03, Phase III Randomized, Double Blind Placebo Controlled Trial of North American Ginseng Extract to Prevent Respiratory Infection and Reduce Antibiotic Use in Patients with previously untreated Chronic Lymphocytic Leukemia, CLL. Because the trial had a brief enrollment period of two months, successful recruitment was imperative.

The goal of this project is to identify nursing leadership interventions, which resulted in successful screening and enrollment of appropriate patients to a CLL trial with a limited enrollment time frame of two months.

Nursing leadership at five NCCCP clinical sites implemented the following strategies to successfully screen and enroll patients into this trial: 1) Identify a dedicated staff member to screen patients such as a full time research nurse, CRA, pharmacy fellow or provide extra hours for existing research staff to screen study specific patients. 2) Maximize access to electronic medical records to screen and identify eligible CLL patients. 3) Submit protocol and "Dear Patient" template letter (prior to official protocol activation) to the IRB. 4) Identify a committed physician champion to promote the research trial.

378 patients were screened and 43 patients were enrolled into this study within a two-month time frame.

Nursing leadership challenges for this study included limited time to build enthusiasm and promote the study, ongoing audits at time of study enrollment, and limited time to follow up on patient letters and phone calls. Patient barriers included those who did not want to travel to the clinic for repeated visits, concern of side effects of ginseng, patients' perception that they were too busy to participate, cost to patient for additional visits, and those who were interested but were ineligible because of exclusion criteria.

### 3645

**INFUSION REACTIONS ASSOCIATED WITH MONOCLONAL ANTIBODIES: ISSUES FOR ONCOLOGY NURSES.** Pamela Viale, RN, MS, CS, ANP, AOCNP®, Oncology Nurse Consultant and Nurse Practitioner, Saratoga, CA

Monoclonal antibodies are an important part of the armamentarium of therapeutics used to treat patients with cancer. Although the overall incidence of hypersensitivity reactions associated with chemotherapy treatments is approximately 5%, the incidence of infusion reactions with some monoclonal antibodies can be much higher. Infusion reactions can occur within minutes of drug

administration or as a delayed response. Additionally, certain geographic areas have been linked to higher infusion reactions rates with specific antibodies.

Oncology nurses attending the Oncology Nursing Society's Annual Meeting in 2005 were surveyed about their perceptions regarding infusion reactions showing that these common reactions can be emotionally difficult for nurses and patients. Schwartzberg et al conducted a retrospective chart review of severe infusion reactions and also noted that these events are challenging for patients and staff, with potential for increased hospitalization costs. The purpose of this presentation is to describe monoclonal antibodies at risk for infusion reaction, and strategies to manage this common, yet sometimes fatal adverse event.

Obtaining a comprehensive allergy history and knowledge of specific patient groups at risk, including awareness of the potential for geographic differences in the allergic response rate for specific medications are all important strategies in the identification of patients at risk. Clinical pathways, algorithms, and directives would benefit clinicians in preparing a planned approach to infusion reactions.

Achieving competency in the management of infusion reactions is essential. Performing mock training for staff on responding to a mild, moderate, or severe infusion reaction is important. Response cards should be available for easy reference for staff. The inclusion of a short form in a patient's file could quickly reveal history of allergies and other pertinent information. Oncology nurses should also be well-versed in emergency response protocol, including the need for emergency medications and quick retrieval of resuscitation equipment.

Oncology nurses should be aware of the risk for infusion reaction. Knowledge of the appropriate emergency response is paramount. Severe infusion reactions are not common but this adverse event can be distressing to both nurses and patients and can lead to fatal outcomes in some patients.

### 3647

**DECREASING CANCER-RELATED FATIGUE THROUGH AN EBP WALKING PROGRAM PILOT.** Laurel Courtney, RN, MS, AOCN®, Arthur G James Cancer Hospital and Richard J Solove Research Institute, Columbus, OH; Karen Hock, Arthur G James Cancer Hospital and Richard J Solove Research Institute, Columbus, OH

Fatigue is the most prevalent side-effect of cancer patients receiving chemotherapy. Greater than 90% of patients undergoing treatment experience this symptom. Cancer-Related Fatigue impacts patients physically, cognitively and mentally and substantially impacts patients' quality of life and ability to function optimally on a daily basis. Walking is an inexpensive method to incorporate into a life style and improve management of this symptom. A systematic review done on the use of pedometers to increase physical activity found that pedometer users who were given a goal, whether 10,000 steps or an alternative personalized step goal all significantly increased physical activity over baseline; pedometer users not given a goal did not increase their physical activity.

The goal is to implement and incorporate an Evidenced Based Practice Walking program into patients' plan of care for both inpatient and ambulatory patients utilizing pedometers and exercise logs based on the PEP card on fatigue.

The inpatient and ambulatory units for the pilot were given education on the walking program by a member of the Fatigue workgroup. An algorithm was developed for staff to use for both exercising/non-exercising patients. Folders containing all of the teaching materials were made for the patients. In addition, the exercise log and goal for the week forms were included in the folder and staff taught how to set goals for patients. Pedometers were distributed by Fatigue Workgroup on the pilot units. Patients received a ribbon after two weeks of meeting their goal. Every two weeks the patients received a sticker to add to the ribbon. At the

end of twelve week pilot patients could choose a tennis shoe key chain or a medal recognizing their achievement. Evaluations will be collected at the end of the pilot from both the nurses and the patients participating in the walking program.

At the end of the pilot, evaluations will be reviewed as well as the fatigue scores documented for each participant. Changes needed will be made and further implementation will occur.

Utilizing the PEP card on fatigue was a successful way to integrate evidence into practice and impact patient care.

### 3648

#### THE ESSENTIAL ROLE OF NURSES IN THE DEVELOPMENT AND UTILIZATION OF AN ONLINE CANCER SURVIVORSHIP CARE PLAN.

Carolyn Vachani, RN, MSN, AOCN®, University of Pennsylvania Health System, Philadelphia, PA; Margaret K. Hampshire, BSN, RN, OCN®, University of Pennsylvania, Philadelphia, PA; Christine Hill-Kayser, MD, University of Pennsylvania, Philadelphia, PA; Linda Jacobs, PhD, RN, University of Pennsylvania, Philadelphia, PA; James Metz, MD, University of Pennsylvania, Philadelphia, PA

The estimated 12 million cancer survivors living in the United States are dealing with the long-term effects of cancer treatments with few resources. The Institute of Medicine (IOM) reported that little guidance is available for survivors and healthcare providers to overcome the medical problems that may arise post treatment. The IOM suggested that after cancer treatment every patient should receive a detailed survivorship care plan (SCP), outlining the treatments received, potential late effects, possible preventive measures and monitoring suggestions.

The OncoLife™ program, which is housed on the OncoLink website (<http://www.oncolink.org>) was developed to address the medical late effects faced by survivors. This is achieved by providing evidenced-based, patient friendly descriptions of effects, recommendations for prevention of and monitoring for them. The plan emphasizes the importance of reviewing the document with a healthcare professional.

Oncology nurses performed an extensive literature review, categorizing health effects and linking them with known cancer therapy causes. Long term survivors piloted the program, providing feedback to improve the plan. OncoLife™ was launched April 27th, 2007.

The program is free, easy to use and provides the visitor with an introduction to SCPs. Each visitor completes a questionnaire about therapies they received (type of surgery, radiation, chemotherapy, hormonal agents, etc.). The program then generates an individualized SCP.

To date, 3343 plans have been created addressing a wide variety of diseases and treatments. Twenty five percent of users were healthcare providers (HCPs). Of these, 84% were either RNs (61%) or nurse practitioners (23%). Ninety-five percent of HCPs reported the information provided to the patient was good to excellent.

The lack of funding for survivorship clinics and limited geographic availability makes it unrealistic to think that every survivor will benefit from this scarce resource. The creation of a survivorship plan is time consuming and unachievable by most cancer centers. Nursing involvement with Internet based survivorship care plans can bridge the gap between limited resources and time constraints in the clinic. Nurses seem willing to use the OncoLife™ online program to facilitate discussion and empower patients with timely knowledge about late effects with high satisfaction.

### 3649

#### PATIENT SELF-TESTING AND SELF-MANAGEMENT OF WARFARIN: IMPACT ON THE ONCOLOGY PATIENT.

Leigh Goldstein, MSN, RN, OCN®, Round Rock Medical Center, Round Rock, TX

Oncology nurses care for patients with many different types of cancer and complications from cancer such as venous throm-

boembolism (VTE). VTE is common among cancer patients with many requiring long-term treatment with Warfarin for VTE or for prevention of VTE. Monitoring the international normalized ratio (INR) is essential in maintaining appropriate levels of anticoagulation for people on Warfarin. Millions of Americans on Warfarin must visit their physicians frequently to monitor their INR. Without monitoring they are at risk for a multitude of complications including strokes and serious bleeding. Small hand held INR meters are available for patients to test their INR at home and manage their Warfarin dose based on predetermined algorithms. These monitors are similar to glucometers used by persons with diabetes to measure blood glucose.

The purpose is to increase the oncology nurse's awareness of patient-self testing (PST) and patient self-management (PSM) of Warfarin. Increased awareness will assist in identifying patients that may be good candidates for PST/PSM needing long-term anticoagulation.

Educating patients on the available technology will increase demand and support for PST/PSM of Warfarin. While PST/PSM will not be appropriate for every patient, it has proven to be at least as good as, and often better than conventional management of long term Warfarin therapy.

Since the patient at home has the ability to test more frequently, the INR is kept in therapeutic range more often; subsequently complications from both thromboembolic and hemorrhagic events decrease.

PST/PSM allows the patient increased control over their health management decisions by giving them access to technology and by providing a support network that increases independence and optimal outcomes. The oncology nurse can play a vital role in assisting these patients with their health management questions concerning Warfarin management.

### 3650

#### HANDS FOR HOPE: DEVELOPMENT AND IMPLEMENTATION OF A SUPPORT GROUP FOR PATIENTS EXPERIENCING "CHEMO-BRAIN."

Jamie Myers, RN, MN, AOCN®, University of Kansas School of Nursing, Kansas City, KS; Michele Sloma, MSN, RN, Florida

Chemotherapy-related cognitive impairment ("chemo-brain in lay terms) is estimated to occur in up to 75% of patients receiving chemotherapy. Few nursing assessment tools, patient/family educational materials, and interventions are available although cognitive changes have a significant impact on quality of life. Support groups have been shown to be one effective strategy for enhancing patient education, validating experiences, and modeling coping methods for patients experiencing serious illness.

The goal was to develop and implement a support group specifically for patients experiencing "chemo-brain." Development of a support group specific to one significant treatment sequela may maximize the shared experience important to group cohesion and value.

The Hands for Hope "Chemo Brain" Support Group was initiated in June of 2008. A local hospital was selected as the meeting venue. Meetings are publicized in the hospital newsletter. Hospital social workers, local oncologists, and group members provide referrals. Members receive a welcome packet including a needs assessment, demographic survey, group mission statement, and guidelines for participation. Meetings are held monthly and facilitated by an advanced practice nurse. Guest speakers are invited every other month to provide presentations on related topics. Speakers have included: neuropsychologists, neurologists, disability specialists, speech therapists, and pharmacotherapists. A literature library is available to members upon request.

Membership has grown from 4 to 15 in 5 months. Members acknowledge that participation validates their experiences and helps them to feel they are not alone. Members describe value in being able to share their feelings with people who understand the challenges to quality of life.



This support group may serve as a model for the implementation of like groups across the country. Group start-up materials are available free of charge to interested facilitators. Oncology nurses and oncology social workers are in key roles to assess communities for an unmet need and interest, raise community awareness, and provide group facilitation.

### 3657

**NOVEL STRATEGIES FOR OPTIMAL PERIPHERAL STEM CELL COLLECTIONS FOR AUTOLOGOUS TRANSPLANTS.** Margaret Lichvar, RN, Banner Good Samaritan Medical Center, Phoenix, AZ; Amy Brown, RN, BSN, OCN®, Banner Good Samaritan Medical Center, Phoenix, AZ; Sue Ann Kilgore, RN, MSN, Banner Good Samaritan Medical Center, Phoenix, AZ

Collecting peripheral stem cells for transplantation is time consuming and expensive. It involves approximately four hours per apheresis collection, with an average cost of \$5000 per collection. In addition, three to six collections are often required. The overall cost of apheresis includes charges for supplies, labor, and medications. In addition, patients experience long and cumbersome treatment processes.

Our goal was to predict the best time for each patient's stem cell collection, thereby decreasing the number of collections required. We observed formally that (1) relying solely on white blood counts (WBCs) to determine collection times often yielded insufficient harvests, and (2) maximum cell harvests were often obtained when peripheral CD34 counts were above 20,000/ml. Therefore, we designed a flow process to utilize both WBCs and peripheral CD34 counts to predict the best collection time.

To identify optimal assessment of WBCs and CD34 counts, tracking forms were created. These forms provided evidence-based standards of care for when counts should be checked, and when collection should be initiated to yield the greatest progenitor cell harvest. This included collections following mobilization utilizing growth factors alone or with chemotherapy. They also provided the nurses with valuable data on each patient, so consistent care was followed throughout the collection process. In addition, the use of larger-gauge catheters, which allowed the processing of significantly greater blood volumes per apheresis, was implemented to further improve our collection process.

Utilizing these strategies, the number of apheresis procedures has greatly decreased, resulting in an average savings of \$15,000 per patient. Additional cost savings were seen in decreased workloads for all team members and reduced treatment exposure for patients. Continuity of patient care and patient satisfaction also improved.

This process was originally implemented with multiple myeloma patients and later modified and applied to patients with all diseases collecting for autologous transplants with the same successful results. We believe that other autologous transplant programs may benefit from implementing this evidence-based process.

### 3666

**POLYNEUROPATHY, ORGANOMEGALY, ENDOCRINOPATHY, MONOCLONAL GAMMOPATHY AND SKIN DEFECTS (POEMS SYNDROME): WHAT NURSES NEED TO KNOW.** Ellen Mullen, RN, BSN, ANP, GNP, MD Anderson Cancer Center, Houston, TX; Noel Mendez, RN, BSN, OCN®, MD Anderson Cancer Center, Houston, TX; Sue Buzzurro, RN, BSN, MSN, MD Anderson Cancer Center, Houston, TX

POEMS syndrome is an extremely rare multisystem disorder. POEMS is an acronym that stands for (P)olyneuropathy, disease affecting many nerves; (O)rganomegaly, abnormal enlargement of an organ; (E)ndocrinopathy, disease affecting certain hormone-producing glands that help to regulate the rate of growth, sexual development, and certain metabolic functions (endocrine system); (M)onoclonal gammopathy or M proteins; and (S)kin defects. POEMS syndrome is associated with a group

of disorders known as monoclonal gammopathies or plasma cell dyscrasias. Common symptoms of this syndrome can present similar with other disorders, therefore increasing nursing awareness of this syndrome is imperative. By doing so will assist nurses in differentiating clinical presentations to be able to provide prompt symptom management as well as to provide support and guidance.

The purpose of this presentation is to bring awareness of this rare disorder that occurs approximately 1 in 2000 U.S. population. This presentation will include an overview of the pathogenesis, clinical features of the syndrome that differentiate it from other disorder, and diagnosis and treatment of POEMS. The major and minor criteria of the syndrome will be discussed as well as symptom managements. An emphasis on nursing interventions and managements will be included.

Treatment decision is based on the severity of the disease. It requires a collaborative effort of a multidisciplinary team as efforts are aimed towards symptom management. The treatment of POEMS in addition to symptoms management, includes radiation therapy, corticosteroids, chemotherapy and stem cell transplant.

Upon completion of the presentation, the audience will be able to discuss the major criteria of POEMS syndrome. Nurses will gain a better understanding on the pathogenesis of the syndrome. Furthermore, the audience will also be able to discuss treatments and nursing management of POEMS syndrome.

The presentation will increase nurses' awareness and help differentiate clinical symptoms of POEMS from other disorders. By gaining a better understanding of the syndrome, nurses can help in preventing debilitating conditions that can occur if this syndrome is not recognized and treated promptly.

### 3669

**ONCOLOGY TOWN HALL MEETINGS.** Sarah Witt, RN, OCN®, Northwestern Memorial Hospital, Chicago, IL

The two in-patient Oncology units at Northwestern Memorial Hospital currently staff approximately 180 nurses, patient care technicians, and secretaries. The department was recently moved to a building 2 blocks away from the main hospital and leadership offices. A need was identified in the transition to give staff the opportunity to have face to face meetings with leadership staff to discuss issues on the units either directly related to patient care, or staff satisfaction.

The Town Hall Meeting was created to bring together all staff members with the Director of Oncology Nursing, Clinical Nurse Specialist, Managers, and Clinical Coordinators. The forum is dedicated to making a positive impact on the work environment in the Department of Oncology Nursing.

A mission and vision statement was created by the nursing leadership group, as well as selecting a chair and co-chair. The forum meets once a month on one of the two inpatient units over breakfast and all staff members are invited to attend. The minutes from the previous meeting are reviewed by the chair of the committee and approved, and then the floor is opened up to staff members for discussion. The meeting lasts for one hour and minutes are taken and distributed. Any issues requiring a decision or follow up are forwarded on to the appropriate person by the chair. Any resolutions or open topics are then discussed at the next meeting.

A survey was put into place before initiating the meeting as well as after 3 months to evaluate the effectiveness of the meetings, and to gather feedback on time, location, duration, etc. We will continue to survey staff members every 6 months to ensure the forum remains an effective outlet for staff.

The forum sought to create an environment of open communication and proactive collaboration between front line staff and nursing leadership to improve job satisfaction, promote retention, create a safer work environment and improve patient care. We have had excellent feedback from the staff, and would like to expand the forum to be utilized in other departments throughout the hospital.

**EVERYTHING THE AMBULATORY NURSE NEEDS TO KNOW ABOUT SAFELY ADMINISTERING CHEMOTHERAPY TREATMENT VIA HEPATIC ARTERIAL INFUSION PUMP.** Deborah Italiano, RN, Memorial Sloan-Kettering Cancer Center, New York, NY

Approximately 148,810 Americans are diagnosed with colon or rectal cancer annually, and 49,960 die from this disease. The liver is the dominant metastatic site for patients with colorectal cancer. The hepatic artery supplies the liver with the majority of its blood supply, therefore patients with liver disease can benefit from the administration of chemotherapy via hepatic arterial infusion (HAI). HAI is based on the principle of targeting the tumor site directly and can be used alone or in combination with systemic chemotherapy. At this NCI-designated comprehensive cancer center, over 800 doses of chemotherapy were administered in the ambulatory setting via HAI in 2008. Nurses are specially trained to care for these patients and the competency includes review of the patient population, policies and procedures, assessment of risk factors, observation and supervised practice sessions learning to use the pump.

The purpose of this presentation is to provide a plan developed to educate the nurse about the essential components of caring for patients with HAI pumps.

This presentation will describe an educational plan for nurses that includes information on the pump function, chemotherapy agents, access equipment and administration techniques for continuous infusion. Complications such as seromas, flipped pump and high residual volume will be discussed with interventions provided for management. A detailed patient education plan will be presented which includes the importance of adhering to refill appointments, monitoring liver function tests to prevent chemical hepatitis, instructions about early signs of infection and factors that can increase the pump's flow rate, such as elevated body temperature and altitude.

Successful completion of a competency assessment and return demonstration qualifies the nurse to care for this patient population. Patient safety, quality of life and overall survival were all improved at this institution because the risks of complications and treatment delays were dramatically reduced by the nurses' ability to care for these pumps.

At the completion of this presentation the nurse will have a basic understanding of the HAI pumps' purpose and function. They will possess the basic framework to safely administer chemotherapy via HAI pump, manage potential complications and educate patients.

### 3672

**INFLAMMATORY BREAST CANCER: BREAST CANCER WITH NO LUMP?** Pamela Vranas, RN, ONP, MS, AOCN®, MD Anderson Cancer Center, Houston, TX

Inflammatory breast cancer (IBC) is a rare form of breast cancer which accounts for only about 1% to 5% of all cases of breast cancers, but it is a highly aggressive disease with a poor prognosis (5 year survival rate of 40%). Symptoms can progress in only a few weeks and lymph nodes are generally involved on presentation. Patients are frequently misdiagnosed, therefore prompt diagnosing and treatment is key to increasing survival. Oncology nurses serve as the front line to the care for patients and it is important that they realize how to recognize the disease, the urgency of this disease and how they best assist their patients.

The purpose of this activity is to familiarize the attendees with how IBC clinically presents, how it is diagnosed, overview of treatment options, and learn how they can effectively assist their patients.

This activity will review the signs/symptoms of how IBC presents, what tests are used to diagnose it, and review treatment options. Several case studies will be used to further solidify the information.

The goal of this activity is for oncology nurses to become familiarized with how IBC presents, how it is diagnosed, treatment options, and how they can support their patients emotionally and physically throughout the therapy. The attendees will then be able to effectively intervene with the patients through the continuum of care appropriately.

Patients with IBC are generally younger, frequently misdiagnosed, and generally very frustrated and worried upon presenting to the oncologist. The challenges to oncology nurses are unique in this population. The patients are seeking accurate information, treatment and hope, but all they find is misinformation and dismal statistics. Oncology nurses are the key to providing patients with accurate education, emotional support, directing them to appropriate resources, and providing them with the hope and support needed to fight this deadly disease. With better understanding of the aggressiveness of IBC and treatments, they can provide better support services to the patient and their families.

### 3677

**WHICH QUALITY OF LIFE ISSUES ARE RATED BY PATIENTS AS BEING THE MOST IMPORTANT? RESULTS OF A SURVEY OF 3860 PATIENTS WITH BREAST, LUNG AND PROSTATE CANCER.** Jennifer Horgan, CRNP, North Shore-LIJ Health System, Lake Success, NY; Patricia Hollen, PhD, RN, FAAN, University of Virginia, Charlottesville, VA; Beverly Davis, RN, MSN, AOCN®, Nex Cura, Seattle, WA; Judith Petersen, RN, MN, AOCN®, Nex Cura, Seattle, WA; Kenda Burg, Nex Cura, Seattle, WA; Angela Belland, Nex Cura, Seattle, WA; Richard Gralla, North Shore-LIJ Health System, Lake Success, NY

Identifying issues of importance for patients with cancer is central to assessing health-related quality of life (QL) and patient reported outcomes. These data are critical for patients to be able to communicate effectively with oncology nurses. Validated QL instruments aid in evaluating the effectiveness of interventions and in assuring that appropriate goals are met.

To determine among the many issues, which are considered to be the most important, and whether the ratings differ by cancer type, gender, age group or other key factors, as assessed with the patient-rated: Lung Cancer Symptom Scale (LCSS), Prostate Cancer Symptom Scale (PCSS), and Breast Cancer Symptom Scale (BCSS).

The underpinning framework of these instruments is based on a published conceptual model. This model indicates that areas of change are captured in detail, while those dimensions less likely to vary are captured more globally.

We utilized the established web-based patient information resource, NexCura, to electronically survey registered patients with lung (660 patients), prostate (2128 patients), or breast cancer (1072 patients). Surveys were completed anonymously online. Characteristics included disease stage, age, gender, and treatment history. Patients ranked issues (20-lung, 18-prostate, 21-breast) on 5-point scales assessing the importance of each item.

For all three malignancies, the two highest-rated items in the top-ranked category were: 1) good QL (78%-82%), and 2) maintaining independence (71%-75%). The order remained constant across all diseases, genders, and stages. Other issues rated most highly were: able to perform normal activities, ability to sleep, fatigue, and depression (all in the 40-64% range).

These results represent one of the largest surveys of patient concerns in these cancers. This study provides support for the content validity of the LCSS, BCSS and PCSS QL and indicates that these items should be part of any QL instrument in these malignancies and warrants testing in patients with other cancers.

### 3678

**WHEN PREVENTION FAILS: POLICY FOR ACCIDENTAL CHEMOTHERAPY OVERDOSE.** Joan Moore, MN, APRN, AOCN®, Yale-New Haven Hospital, New Haven, CT; Judith Grasso, MSN, RN, AOCN®, Yale-New Haven Hospital, New



Haven, CT; Lisa Barbarotta, MSN, RN, AOCNS®, Yale-New Haven Hospital, New Haven, CT; Wendelin Nelson, PharmD, BCOP, Yale-New Haven Hospital, New Haven, CT; David S. Fischer, MD, Yale-New Haven Hospital, New Haven, CT

Enormous effort has been placed on prevention of chemotherapy error, emphasizing the safety of systems to reduce the chance of human error. Despite best efforts, errors have occurred with tragic consequences. Following a fatal fluorouracil error in Canada, the root cause analysis was published. One of the contributing factors cited was lack of a coordinated, rapid response to the error, in order to mitigate damage. Examination of our chemotherapy processes revealed potential risk to patients if immediate overdose actions were not clearly delineated. Literature review and querying multiple institutions did not identify adequate, recommended policies. As a result, the purpose of this work was to develop a policy for chemotherapy overdose to provide a rapid response and minimize morbidity and mortality.

A policy to address immediate actions for chemotherapy overdose was developed. Chemotherapy overdose was defined as a dose administered that was significantly larger than prescribed, given at a significantly shorter interval than prescribed, or infused too rapidly. Failure to appropriately dose-reduce chemotherapy, and omission or delay of rescue medications, were included in the overdose definition. Immediate patient evaluation considerations were established. Notification of appropriate personnel was defined. Responsibility for patient and family disclosure was determined. Instructions to access Micromedex Poisindex Summary® were provided along with information on how to contact the state Poison Control Center. A table to guide administration of possible antidotes was developed including potential interventions for chemotherapy overdose and required monitoring. Anticipating that most side effects would be amplified, recommendations for lab work, hydration and infection assessments were defined. Treatment and monitoring recommendations for agents known to cause specific organ toxicity were established. Parameters for ongoing monitoring were identified. Documentation included; notifications, assessment of anticipated side effects, treatment plan, level of monitoring and discharge instructions.

Availability of a chemotherapy overdose policy provides a level of safety for our patients that previously did not exist. Treatment to decrease morbidity and mortality would be initiated without delay.

It is essential to recognize and address potential vulnerability to insure safe practice. Publication of a tragic error elsewhere forced us to be more proactive and provide a clearly defined, rapid response for chemotherapy overdose.

### 3681

**ACUTE LYMPHOBLASTIC LEUKEMIA IN ADOLESCENTS AND YOUNG ADULTS: AN EDUCATION MODULE FOR CLINICAL TRIAL, CALGB 10403.** Maureen Haugen, RN, MS, CPNP, CPON®, Children's Memorial Hospital, Chicago, IL; Debbie Toomey, MSN, PNP, CPON®, City of Hope Medical Center, Duarte, CA; Patti Byron, RN, MSN, British Columbia Childrens Hospital, Vancouver, Canada

Clinical trial, CALGB 10403 was developed by the cooperative efforts of three adult oncology groups in response to the need to improve outcomes for adolescents and young adults (AYAs) with acute lymphoblastic leukemia (ALL) being treated at adult institutions. The framework for this protocol is a current clinical trial for high risk pediatric patients through Children's Oncology Group (COG), because recent research has shown that AYAs have improved survival if treated on a pediatric clinical trial. This protocol was open to enrollment in January 2008, therefore, the need for education became a priority.

Education regarding this clinical trial was thought to be necessary because adult health care providers caring for AYAs with ALL are less familiar with components of this pediatric based regimen.

The need for education was felt to be wide spread and immediate for physicians, nurses, pharmacists and research assistants.

An educational module in webcast form for CALGB 10403 was created by the collaborative efforts of three adult oncology cooperative groups and led by members of the COG Nursing Discipline. This poster, which summarizes the information presented in the webcast, highlights the similarities and differences between treating a child versus and AYA patient with ALL, the phases of treatment, specific chemotherapy agents and side effects, as well as symptom management and late effects.

One major component of the webcast is an evaluation form which will assess the effectiveness of this type of education in preparation for future collaborative efforts.

The AYA age group is the least represented in clinical trials and accounts for only 10% of the population in either the adult or pediatric oncology setting. Unfortunately, many of these patients never make their way to a cancer or enroll on a clinical trial. This educational tool will help to promote this new protocol for AYAs with ALL, as well as provide information as to how to use it, thereby ultimately entering more patients on the treatment study and learning more about treating this unique patient population.

### 3682

**SOWING THE SEEDS OF ONCOLOGY NURSING: A STUDENT MENTORSHIP.** Rachel Choudhury, MSN, RN, OCN®, Mount Carmel College of Nursing, Columbus, OH

Oncology nursing is an exciting and rewarding profession. The driving force behind this initiative is the Oncology Nursing Society (ONS) - the largest professional oncology association in the world with membership made up of more than 37,000 professionals who represent a variety of roles, practice settings, and subspecialty practice areas. As the coordinator and mentor for the Oncology Nursing Student Interest Group (ONSIG), I wanted to assist in the development of nursing students with oncology interest by providing them resources, experiences, and role models necessary for them to thrive.

The purpose of ONSIG is to provide support, resources, education, and meaningful social activities that promote professional development of students with interest in oncology nursing. The mission of ONSIG is derived from the mission of ONS: To promote excellence in oncology nursing and quality cancer care and from the Core Values of Mount Carmel Health System: Respect, Compassion, Excellence, and Social Justice. ONSIG philosophy incorporates the science and art of nursing, with the concepts of caring, health, and knowledge as the central tenets.

Nursing students are invited to join the organization for free. Junior and Senior level students are encouraged to serve in the Executive Committee. There are several opportunities for students to explore oncology nursing through their participation and experiences in the ONSIG-sponsored activities. To reward active members, funds are used to assist with ONS membership.

Currently, there are twelve active, regular student members, four of which are ONS members. Events-related participation range from eight to 24 students per event. ONSIG project goals for student members were met successfully and included: (1) Attendance in meetings/conferences with the Columbus Chapter; (2) Presented mini-lectures/discussion on oncology topics at the college and community settings; (3) Served the community by participating in volunteer events related to oncology; and (4) Pursued interest in oncology nursing through transitions precepted experience and as a career.

Student membership recruitment will be extended to other nursing colleges/programs locally. Innovative and interesting activities are required to maintain student interest in participation. Support from the educational institution's administration, local oncology chapter, and the ONS remains to be crucial.

### 3683

**STRATEGIES USED TO INCREASE ONS MEMBERSHIP AND ONCOLOGY CERTIFICATION IN ONE INSTITUTE.** Mary Ann

Long, MS, RN, OCN®, Roswell Park Cancer Institute, Buffalo, NY; Lisa Boris, BSN, Roswell Park Cancer Institute, Buffalo, NY; Maureen Kelly, RN, MS, Roswell Park Cancer Institute, Buffalo, NY; Margarita Coyne, RN, BSN, Roswell Park Cancer Institute, Buffalo, NY

The nursing shortage poses unique challenges for the retention and recruitment of oncology nurses for both inpatient and ambulatory care settings. Oncology is a dynamic field that requires nurses to continually learn new treatments, diagnostic procedures and medications to name a few items.

Membership in the Oncology Nurses Society provides a venue for continuing education on the latest breakthroughs in cancer treatment, opportunities to network and learn from other oncology nurses and an opportunity to work with experts in all areas of oncology including research, education and patient care.

Certification in Oncology Practice provides nurses with the expertise they need to continue to provide quality care for patients with a catastrophic illness, cancer. For patients, certification means they can have confidence that the nurse providing care is an expert in the field.

Numerous strategies were utilized to support both membership in the Oncology Nurses Society and certification in Oncology practice including: 1. development and sale of a cookbook whose proceeds provide 50% of first time membership for ONS. 2. funds raised by the Retention & Recruitment Committee for Nursing are used to supplement 50% of cost of established ONS membership. 3. onsite review classes for oncology certification. 4. reimbursement for certification exam fees upon successful completion. 5. annual monetary recognition for certification achievement.

This presentation will include information on how both ONS membership and Oncology certification have increased substantially over the past 2 years. Information will also demonstrate the decrease in nurse vacancy rates at this Institute since these measures have been instituted.

Oncology nursing is a demanding but rewarding career that requires life long learning. It is imperative that we support nurses in their professional development through membership in professional organizations and through opportunities to achieve and demonstrate expertise in their specialty field. These strategies are instrumental in increasing nursing satisfaction and result in improved retention and recruitment rates for nurses.

### 3684

**ART THERAPY INTERVENTIONS WITH CAREGIVERS SUPPORTING PEDIATRIC PATIENTS WHO ARE UNDERGOING BONE MARROW TRANSPLANT FOR CANCER.** Kathy Kravits, RN, MA, LPC, ATR, City of Hope, Duarte, CA

This study addresses family care giving in pediatric oncology, an area widely recognized to be one of the most stressful care giving situations. Addressing cancer-related stressors, family resources and family meaning as critical to improving health related quality of life in families of patients with cancer. The degree of functional impairment of the patient is positively correlated with distress in the caregiver. Art therapy has been shown to have produced a reduction in distress, anxiety, and depression; increased positive emotions, increased coping resources, and improved health related quality of life.

The purpose of this feasibility study is to explore the use of art therapy as an intervention for the reduction of emotional distress in family caregivers who are supporting a pediatric cancer patient undergoing bone marrow transplantation.

Aim 1. Test the effects of an art therapy intervention.

Aim 2. Describe the illness experience of caregivers and how it is impacted by the art therapy intervention.

Aim 3. Determine the effect size for calculating the sample needed for a randomized clinical trial.

This project integrates two models, Resilience and Affective Change Model. Resilience is a dynamic process that minimizes the negative consequences of exposure to risk and threat. The

model that will be used to inform the art therapy interventions is the Affective Model of Change. This model approaches creating change through the integration of attachment and affect regulation principles in the context of a dyadic relationship.

Accrual will be 26 individuals over the age of 18 who are providing personal care to pediatric cancer patients undergoing BMT. Six art therapy interventions will be delivered. Qualitative and quantitative measures will be administered. Descriptive and non-parametric statistics will be used.

Results will be available at time of presentation.

### 3685

**MANAGING MUCOSITIS IN THE INPATIENT SETTING.** Alice Ellis, RN, MS, AOCN®, Texas Health Harris Methodist Hospital, Bedford, TX; Tammy Quattrochi, RN, OCN®, Texas Health Harris Methodist Hospital, Bedford, UT; Cleo DeGuzman, RN, OCN®, Texas Health Harris Methodist Hospital, Bedford, TX; Monique Lounethone, RN, OCN®, Texas Health Harris Methodist Hospital, Bedford, TX

Mucositis can be a significant obstacle for the patient recovering from cancer and the toxicities of cancer therapies. The patient's comfort and healing can be positively affected when nursing care is guided by evidence-based practice that is facilitated by simple operational processes. In our Inpatient Oncology Unit the nursing assessment of patient's oral cavity was inconsistent and usually not documented until the patient was in pain. Also oral care products were often overlooked or refused by the patient. We decided that we needed to improve the care of our patients with mucositis.

The goal of the project was to utilize evidence-based practice guidelines for the assessment and care of patients with mucositis. To do this we needed a process and tools that would facilitate nursing practice and could be easily audited to identify areas of weakness and opportunities for improvement

The issues were discussed in the Unit Council meetings and several staff nurses volunteered to take part in the project. Assessment tools were reviewed and the Oral Assessment Guide was selected for use. A documentation form was then developed which provided care cues based on the appropriate assessment. Use or refusal of oral care products is charted here as well. A log of patients' names with mucositis is kept and chart audits are done by the staff. Throughout the process all Unit nurses participated in timely continuing education offerings through articles, PEP card, CD's etc.

The nursing staff has expressed more confidence in their oral care practices and the oral care product is used more appropriately. The audits indicate that most of the patients with mucositis are identified in the early stages and interventions are instituted appropriately. In addition, mucositis is tracked now as a quality indicator for our Unit

On our Oncology Unit managing mucositis is now a comprehensive part of the patient's overall care. The key was 1) the coordination of the assessment and the interventions, 2) the facilitation of simple documentation and 3) reinforcing the staff nurse's knowledge with current information about managing mucositis.

### 3686

**USE OF NURSING SIMULATION LABORATORIES IN THE DEVELOPMENT OF NEW ONCOLOGY NURSES' SKILLS IN MANAGING THE PSYCHOSOCIAL ISSUES OF CANCER PATIENTS.** Patricia McLaughlin, RN, MSN, AOCN®, Cancer Treatment Centers of America, Philadelphia, PA

Oncology Nursing is a unique specialty that deals with a variety of both physical and psychosocial skills. While competency in caring for the physical needs of the cancer patients is relatively easy to demonstrate, assessing and meeting the psychosocial needs is much more difficult to measure. Additionally, a nurse entering the field of oncology needs to assess his or her own comfort level in

dealing with oncology patients and their significant others. In the past, Registered Nurses, whether new to nursing or new to oncology, received training needed to care for the physical requirements of the patients. Psychosocial needs were addressed, however, not in great detail and were not evaluated with the same intensity as were the physical needs.

Today, many nursing schools, universities, and hospitals use simulation laboratories as both a teaching and an evaluation tool. Mannequins are most often used as the patient so the nurse can demonstrate such skills as accessing implantable ports, monitoring infusion of chemotherapy, responding to adverse events related to chemotherapy as well as many other additional skills. What is unique about simulation laboratories is that it is now possible to observe the nurse in a variety of psychosocial settings with the use of specially trained actors. How does the nurse respond to the patient and significant other(s) when the diagnosis of cancer is made? How comfortable is the nurse in dealing with the patients' issues? There are numerous scenarios based on the type, stage, and treatment strategies in addition to the prognosis.

By using a skills laboratory with individuals specially trained in dealing with the psychosocial needs of both patients and caregivers, much can be learned. Observations and recommendations can be given by the trained specialists to the nurse relating to the patient interactions and to the nurse's feelings can be explored. In the past, the simulation laboratory was only used to for the evaluation of physical tasks. We now have a method for assessing the nurse's ability to deal with oncology patient's psychosocial needs and the nurse's own feelings.

The evidence will rest with with the oncology patients' evaluation of the care they received, both physical and psychosocial and with staff turn-over rate related to emotional "burn-out."

### 3689

**COMPARISON OF PATIENT/PARTNER ROLE BY GENDER FOR GENERAL AND MENTAL HEALTH, DYADIC ADJUSTMENT AND DISTRESS.** Mary Ann Morgan, PhD, ARNP, H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL; Susan McMillan, PhD, ARNP, University of South Florida, Tampa, FL; Kristine Donovan, PhD, MBA, H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL; Janine Overcash, PhD, ARNP, University of South Florida, Tampa, FL; Brent Small, PhD, University of South Florida, Tampa, FL

Much of previous dyadic research, when one member has a diagnosis of cancer, has centered on disease-specific populations. This study included a symptom-defining population, patients with pain, who were in committed, intimate relationships.

The purpose of this study was to examine the effects of gender and patient/partner role on the quality of life of both members of the dyad. Quality of life outcomes included relationship quality, general health, mental health, and distress.

The Stress Process Model guided the study. Being married is associated with lower mortality from a wide range of illnesses, but whether relationship quality rather than marital status influences outcomes is unknown.

This was a secondary analysis of baseline data from a larger National Institutes of Health (NIH) funded pain and caregiver coping interventional study (5R01NR008270) using standard dyadic design that included 177 heterosexual couples in a committed relationship. Both the patient and partner completed the Dyadic Adjustment Scale, a measure of relationship quality, the Profile of Mood States (POMS) and the SF-36. Comparisons using MANOVA were examined for role (patient/partner) and gender differences.

There were no significant effects for role or gender by self-report on the POMS however, female patients approached significance ( $p = 0.058$ ). Significant effects were found for patient/partner role in mental health, physical health and dyadic adjustment. As expected, patients' general health was lower with a mean of 51.82 (SD 17.88) compared to partners' general health of

69.69 (SD 17.00). Patients had greater marital satisfaction ( $p < .011$ ) with a mean of 121.82 (SD 14.96) compared to 118.88 (SD 15.94) for partners. There were significant role and gender effects ( $p < .015$ ) for mental health. Female partner mean of 70.12 (SD 20.77) was closer to male patient mean of 68.82 (SD 20.35) and female patient mean of 66.77 (SD 19.42). Male partner mean of 77.12 (SD 15.60) indicated less discouragement than female partners. Partners of cancer patients frequently assume greater responsibilities and results suggest that partners should be supported as their lives undergo adaptations to the effects cancer has on the dyad.

### 3690

**A VOICE FOR ONCOLOGY MID-LEVEL PROVIDERS.** Janet Sirilla, RN, MSN, OCN®, OSU James Cancer Hospital & Solove Research Institute, Columbus, OH; Phyllis Kaldor, MS, RN, OCN®, OSU James Cancer Hospital, Columbus, OH

A newly designed shared governance model is in its fourth year at this NCI Comprehensive Cancer Institute. The model uses the councilor shared decision-making approach with staff at all levels participating.

As this model has found its momentum, there was a dramatic increase in the number of mid-level practitioners (MLP) at this organization. The current model did not meet the unique needs of the oncology MLP.

A task force was formed to develop a proposal for a MLP Council. The proposal outlined the council authority and accountability; membership; meeting time; responsibilities; and hospital committees with a liaison from this council. Recommended membership included ten MLPs representing both inpatient and ambulatory service groups, the CNO, two to three directors and/or managers, a nurse educator, and a physician. Although most of the MLPs are nurse practitioners, the proposal stated that a minimum number of physician assistants and direct care CNSs serve as members. Since only 10% of the MLPs are hired with oncology experience, the responsibilities of the council include coordinating an orientation plan specific to oncology; defining competencies for initial credentialing and additional privileges; assessing the educational needs of the MLPs; and providing CE programs specific to oncology. Other responsibilities include monitoring the state Nurse Practice Act and formularies for changes; promoting professional development; developing initiatives to promote continuity of care and to foster interdisciplinary collaboration that will enhance the care of the oncology patient. The proposal was shared with senior nursing leadership, the MLPs, and the physicians to solicit feedback. After minor changes, the initiation of the council was approved.

The MLPs submitted membership applications after seeking approval from their manager and attending physician(s). Twice as many applications were submitted as needed so areas selected their representative by ballot. Meetings will be evaluated monthly and also annually with a written annual report.

As oncology care becomes more dependent on MLPs, institutions need to identify ways to meet the needs of these practitioners. A mid-level council may be one way to meet these needs while promoting shared decision making and quality patient care.

### 3691

**THE ROLE OF THE ONCOLOGY NURSE NAVIGATOR IN DISTRESS MANAGEMENT OF ONCOLOGY PATIENTS; A RETROSPECTIVE STUDY.** Jay Swanson, RN, BS, BSN, OCN®, Saint Elizabeth Cancer Institute, Lincoln, NE; Lisa Koch, RN, BSN, MSHS, St Elizabeth Regional Medical Center, Lincoln, NE

Cancer patients experience prolonged high distress levels that contribute to ongoing adjustment difficulties and can potentially interfere with treatment compliance. Only about 5 percent of cancer patients receive any assistance for their distress. A number of professional organizations recommend that cancer patients be screened for heightened psychological distress. The National Comprehensive Cancer Network (NCCN) recommends all oncol-



ogy patients be screened at their initial visit and at appropriate intervals thereafter. While cancer related distress has been well described in the literature, little exists in the way of intervention to help lower cancer patient distress effectively.

The purpose of this retrospective study was to determine if the Oncology Nurse Navigator (ONN) role has any effect on the distress levels of adult oncology inpatients using the NCCN Distress thermometer.

A retrospective chart review framework was used to collect information about patient distress score at the time of admission and at the time of discharge. Comparing these numbers to determine if the ONN provides assistance in lowering the patients distress levels per the patients own perception of their level of distress.

Currently oncology patients are asked to rate their distress by their nursing staff daily. For the purposes of the retrospective review, the first charted distress score was recorded as the initial score; and the distress score prior to discharge was used as the discharge score. Correlation studies and two tailed t-test were used to assess the relationship between the change in distress and the interventions of the ONN. Descriptive statistics were obtained for all variables, including age, sex, diagnosis, rural/urban setting and length of time between scores.

Overall, the trend showed that patients seen by the ONN had lower distress scores on dismissal, however not statistically significantly enough to relate back to the general population. It was determined that the ONN visits had a statistically significant effect on the distress scores of inpatients that were 65 years of age or less and by those patients from rural settings when compared to a comparable cohort not seen by the ONN. This research confirms the use of the ONN to lower cancer related distress scores.

### 3692

**BRIDGING THE CONTINENTAL DIVIDE: PROMOTING CONTINUITY ACROSS THE CARE CONTINUUM.** Gabriela Kaplan, RN, MSN, AOCN®, Trinitas Regional Medical Center, Elizabeth, NJ; Carol S. Blecher, RN, MSN, AOCN®, APN-C, Trinitas Comprehensive Cancer Center, Elizabeth, NJ

Patient care has become increasingly fragmented. People have physicians for almost every body system and visit these doctors in a variety of settings. This is no less true in Oncology, where treatment and follow up is provided in the outpatient area and acute care for the critically ill oncology patient is in-patient. Continuity of care has always been a goal in health care. JCAHO has identified effective communication as a National Patient Safety Goal. It is vital that information flows between the care areas in a timely, accurate and complete manner. It is also important that patients and their significant others have all of the information from the various care areas, so that they have a complete picture of their care. This should lead to decreased medication errors, better utilization of services and increased staff and patient satisfaction.

Our primary goal is to provide seamless oncology care as well as to develop a patient guidebook that is valuable and useful for patients and their significant others. This will quantify the value of the APN role in coordinating care along the continuum and promote adherence in follow up care.

The inpatient and outpatient APNs developed a protocol for monitoring patients and communication.

Nursing rounds now promote communication between areas and weekly patient care/status updates.

Direct communication between the APNs was instituted on admission or discharge of a patient.

Develop an individualized patient education/survival looseleaf book to be started at diagnosis and added to during treatment.

APNs role model professional and collegial behavior through team teaching the Basic Oncology and Chemotherapy courses, as well as interfacing frequently on all units.

We are planning to obtain feedback from the patients and their significant others regarding their ability to understand the diagnosis, treatment plan and interventions. We will also evaluate

staff satisfaction to see if our interventions assisted them in their understanding of the care plan and in provision of care.

Continuity of care and collaboration between the in and outpatient areas should improve adherence to treatment plan, with fewer patients lost to follow up and increased patient/significant other satisfaction

### 3695

**HUNTSMAN CANCER HOSPITAL SBAR PROJECT.** Anastasia Wyckoff, RN, OCN®, Huntsman Cancer Hospital, Salt Lake City, UT; Karen Larsen, RN, BSN, Huntsman Cancer Hospital, Salt Lake City, UT; Rachel Alexander, RN, OCN®, Huntsman Cancer Hospital, Salt Lake City, UT; Donna Gavura, RN, BSN, OCN®, Huntsman Cancer Hospital, Salt Lake City, UT; Leslie Roberts, RN, Huntsman Cancer Hospital, Salt Lake City, UT; Diane Higginson, RN, Huntsman Cancer Hospital, Salt Lake City, UT

Huntsman Cancer Hospital experienced a significant event during a patient "hand-off" between an outpatient clinic and an inpatient unit. This event triggered a grassroots effort by oncology nurses in both areas to identify a better process for patient "hand-off." A taskforce was formed to address the issues of communication during emergent patient admission. Following a literature review and in depth review of current practice, this group adapted and piloted the SBAR tool recommended in the literature.

The purpose of the SBAR documentation tool is to communicate the patient's Situation, Background, Assessment, and Recommendations. Clear, pertinent, timely information is imperative for best outcomes for the vulnerable, neutrapenic patients served by the Huntsman Cancer Hospital.

The SBAR was completed by outpatient nurses and faxed to the inpatient units before clinical report was called. The SBAR design supported the oncology nursing assessment framework and ensured that critical information was transmitted between nurses in the two areas. This also improved assessment of the patients in the clinics by nurses and physicians, and reduced the time taken to admit a patient to the inpatient unit.

The group evaluated the outcome of this process change by using 40 SBARs collected over six months and measured the time it took from the decision to admit a patient to the arrival of the patient on the inpatient unit. A final survey was done with 10 nurses, representing outpatient clinics and the inpatient unit. A Likert scale was used to measure the change in level of communication and facilitation of transfer.

An outcome evaluation revealed improved communication and increased face to face contact between nurses involved in the patient "hand-off." Anecdotal and survey evidence suggests increased nurse satisfaction with SBAR use and improved quality of clinical information. The project was considered a success and the SBAR tool and process will be adopted by the main University of Utah Hospital.

### 3696

**THE CREATION OF A CAREGIVER'S CLASS: PROVIDING CAREGIVERS WITH THE TOOLS NECESSARY TO SUCCESSFULLY CARE FOR BMT/PSCT PATIENTS AFTER DISCHARGE.**

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Caregivers expressed feelings of unpreparedness and fear when patients were discharged home. Discharge teaching was inconsistent from one family to another, and caregivers were overwhelmed trying to remember all the information and anticipate how they would perform. Patients also needed to feel safe and secure when going home with caregivers to ensure good outcomes.

The caregiver role is an extremely important responsibility and plays a key function in a patient's recovery following BMT/PSCT.

This task can be physically and emotionally demanding causing ambivalent feelings of eagerness along with fear and anxiety. Our program envisioned a structured class taught from a user-friendly manual by BMT nurses and dietitians to provide detailed, essential and consistent information. These tools could better prepare caregivers to successfully perform their roles.

A class for caregivers only, specific to autologous or allogeneic transplants and available in Spanish, was developed to meet the identified needs. A comprehensive notebook of ready-reference topic sheets was prepared to address a wide range of concerns such as preparing the home for the patient's return, infection control procedures, managing side effects and medications, bleeding precautions, sexuality, fatigue, indications for immediate medical attention, and nutritional guidelines. Physicians, practitioners, outpatient nurses, case managers, social workers and dietitians provided input. The expectation was that every patient would have a caregiver/s attend the class.

The comprehensive manual allows nurses and dietitians to teach caregivers in a consistent method with defined information. Caregivers have a forum for asking questions and voicing their concerns without patients present. They frequently offer friendly support to one another. The expectation that every patient will have a caregiver/s attend the class has been met. The evaluation forms completed by the caregivers reflect their feelings of being better prepared for their role, as well as fostering a sense of support and connection with our BMT staff.

By focusing on caregiver needs, we have created a consistent and satisfying approach to preparing patients and caregivers for their return home after transplantation. This class provides safe and supportive tools for caregivers which may have application for use by nurses in other BMT programs.

### 3697

**AMBULATORY CANCER PAIN MANAGEMENT: A FEASIBILITY STUDY OF MULTISITE NURSING COLLABORATIVE RESEARCH.** Anita Broxson, RN, MSN, OCN®, University of Texas M. D. Anderson Cancer Center, Houston, TX; Lori Williams, RN, PhD, University of Texas M. D. Anderson Cancer Center, Houston, TX; Tito Mendoza, PhD, University of Texas M. D. Anderson Cancer Center, Houston, TX; Geline Tamayo, RN, MSN, University of Texas M. D. Anderson Cancer Center, Houston, TX; Kristin Ownby, RN, PhD, University of Texas School of Nursing, Houston, TX; Jeanette McNeill, PhD, University of the Incarnate Word, San Antonio, TX

Many patients with cancer (14-100%) continue to suffer unnecessarily from pain. Research in the area of pain management is relevant to oncology nursing because oncology nurses are most often the first to identify or suspect that a patient is in pain. This places her/him in the unique position to assess patients' knowledge of pain management and to follow-up with appropriate pain education. This education should be based on evidence from nursing research.

The purpose of this study is to examine the feasibility of a nursing research effort to collect pain and concurrent symptom data across five institutions. Such research reflects the ONS Research Agenda content area of research in cancer symptoms, side effects, and symptom clusters.

The Symptom Management Model guided the investigation into the incidence and severity of pain and other symptoms potentially experienced by the participants. The model's three inter-related dimensions include the symptom experience, symptom management strategies, and outcomes.

Participants with breast, colorectal, lung, or prostate cancer who were undergoing chemotherapy were recruited by members of the research team. After providing written, IRB-approved informed consent, participants completed the M. D. Anderson Symptom Inventory, the Brief Pain Inventory body outline, the American Pain Society Patient Outcome Questionnaire, the Barriers Questionnaire II, and a demographic information ques-

tionnaire. Descriptive statistics were used to analyze responses. A brief open-ended questionnaire was administered to nurses participating in the study to solicit feedback about the experience of multisite research.

The most frequently occurring challenges experienced by the researchers in recruitment of participants included allotting time away from regular duties, identifying other nurses who could assist them, and a lack of support at the study site. Findings from the 53 patient participants revealed the most frequently reported symptoms were pain, fatigue, and sleep disturbance, while the highest-rated patient barrier to adequate pain management was fear of physiological effects from pain medications. Lessons learned provide valuable information for the design of future multisite research. The need for further investigation into pain and symptom clusters is warranted.

**Funding Sources:** Grant from the Houston Chapter of the Oncology Nursing Society

### 3701

**DIHYDROPYRIMIDINE DEHYDROGENASE (DPD) DEFICIENCY: A CASE FOR ONCOLOGY NURSING EDUCATION.** Susan Moore, RN, MSN, ANP, AOCN®, CancerExpertise, Chicago, IL

Dihydropyrimidine dehydrogenase (DPD) deficiency is an autosomal recessive metabolic disorder in which there is absent or decreased activity of DPD, an enzyme involved in the metabolism of fluoropyrimidines. Standard doses of 5-FU or capecitabine can result in severe mucositis, diarrhea, neutropenia, cerebellar dysfunction and death. The mortality rate is almost 100% in patients with complete DPD deficiency. Approximately 3-5% of cancer patients are partially DPD-deficient and 30-57% of severe 5-FU toxicities are attributed to DPD deficiency. Oncology nurses provide the majority of pre-treatment patient education and must be aware of DPD deficiency and the sequelae.

The purpose of this project was to provide interactive case-based nursing education to promote prospective evaluation of patients scheduled for fluoropyrimidine-based therapy for DPD deficiency risk factors, and encourage discussion of screening with the oncologist and patient.

Oncology nurses attended a one-hour educational session on management of colorectal cancer which included 15 minutes of material on pathogenesis, risk assessment, and screening for DPD deficiency. Exit learning assessments were collected from 97% of those who attended.

Oncology nurses (N=249) with varied nursing education backgrounds attended case-based sessions that included information on DPD deficiency. Learning assessments included Likert scale (1-4, low to high) evaluation of comprehension of the information and preference for case-based learning experiences. Results: Comprehension: 84% ranked comprehension as 4 (excellent); 14% ranked as 3 (good); and 2% ranked as 2 (fair). Preference for case-based learning: 91% ranked preference as 4 (excellent); 9% ranked as 3 (good). 98% of respondents stated they would make practice changes as a result of this information.

DPD deficiency testing is readily available to hospitals and community oncology practices and has the potential to lower the incidence of severe 5-FU toxicity by prospectively identifying at-risk patients. Awareness of high risk patient categories – female, African American, family history of severe 5-FU toxicities – should alert the nurse to discuss DPD deficiency testing with the oncologist prior to ordering chemotherapy. The high financial and QOL costs of supportive care for the complications encountered in DPD-deficient patients who receive 5-FU based therapy underscores the importance of screening for DPD deficiency.

### 3702

**THE IMPACT OF TECHNOLOGY IN THE NURSING PROFESSION: A NEW NURSING INFORMATICS TASK FORCE.** Corinna Kin-Yan Tam, RN, BSN, Memorial Sloan Kettering Cancer Center, New York, NY; Ethel Law, RN, MA, OCN®,

Memorial Sloan-Kettering Cancer Center, New York, NY; German Rodriguez, RN, MSN, Memorial Sloan-Kettering Cancer Center, New York, NY

Information systems present enormous opportunities for improving the delivery, documentation, and evaluation of patient care. However, the challenges for nurses in integrating increasing amounts of data and using new technology can be significant. If nurses are not adequately educated on how to take full advantage of the potential benefits of these systems, patient care can be significantly compromised. While all nurses at this NCI designated comprehensive cancer center received baseline training in managing patient information through our Clinical Information Systems (CIS), retention of skills and acquisition of ongoing upgrade information is problematic given the complexity of our systems and the nurses' clinical workload.

This presentation will describe an educational strategy developed by a Nursing Informatics Task Force comprised of ambulatory care nurses representing different treatment specialties with information technology experience from beginner to advance. The goals were to foster confidence, improve mastery and sustain an ongoing skill level in the use of CIS by ambulatory care nurses.

The task force first conducted a needs assessment of all ambulatory care nurses which resulted in a 60% (n=239) response rate. Seventeen learning needs were identified; the top five were selected for our initial three-phased education program. In phase one, the task force members were educated to develop CIS expertise. In phase two, member experts educated staff at the clinical unit level, leading monthly educational programs and training volunteer super users. In phase three, the task force members published "tips of the month" in our ambulatory newsletter, wrote topic-specific handouts for staff, and explored other creative strategies to sustain staff skills.

Specific competencies were defined and evaluated by return demonstration based on clinical case studies. Staff feedback to task force members and super users and direct observation of CIS use in clinical practice were other methods used for evaluation. At the completion of the education, ambulatory care nurses will be re-surveyed about efficacy of the program.

Oncology nurses must learn of ways to continuously improve and support practice. As emerging technology becomes more complex and enables us to be more efficient and deliver safe quality care, nurses must possess basic nursing informatics competencies.

### 3704

**STARTING A CANCER SURVIVORSHIP PROGRAM—WHERE TO BEGIN?** Patricia Cox, MS, RN, ANP, AOCNP®, Thomas Johns Cancer Hospital at CJWMC, Richmond, VA

According to the Institute of Medicine report, all oncology patients should receive a personalized treatment summary and care plan upon treatment completion to ease their transition to post treatment life. Side effects and late effects of treatment often afflict survivors long after treatment ends and their follow-up periods are over. It has become increasingly evident that the follow-up provided by the oncology community has not always served cancer survivors' needs.

The development of a computerized care plan which reflects the patient's disease, treatment received and adverse events experienced can serve as a tool to prevent fragmentation or substandard care after treatment. Providing care and support through an advanced practice nurse-run program can assist survivors through the tumultuous post treatment period. Physical needs can be met through physician or nurse practitioner visits, and emotional and psychosocial needs through the program's interdisciplinary team.

The development of individualized care plans was the first significant step in the start of a survivorship program. This program was led by an advanced practice nurse with considerable interdisciplinary support. The initial database was developed for breast cancer followed by prostate cancer. This consisted of a review of all possible effects from disease or treatment (e.g. fatigue)

and enabled us to combine these topics into a care plan based on the patient's disease course. This provided the basis for further patient assessments and interventions.

Overwhelmingly, patients have responded that the addition of this survivorship clinic has provided them knowledge related to long term and delayed effects of treatment, leading to improved self-care. After this positive patient feedback and interdisciplinary input, we expanded the patient base to include utilization of the established breast navigation system to identify survivors for care planning.

Providing a post treatment care plan serves to assure survivors that healthcare providers are knowledgeable in long term effects of treatment, their disease and the emotional and psychosocial care they need. In addition, it serves to empower survivors with self care options through knowledge and support, and build their confidence in their ability to live well after treatment.

### 3706

**USE OF A BODY MASS INDEX (BMI) CALCULATOR TO IDENTIFY OVERWEIGHT AND OBESE ADOLESCENT AND YOUNG ADULT (AYA) PATIENTS IN A CHILDHOOD CANCER SURVIVORSHIP CLINIC.** Karla Wilson, RN, MSN, FNP, CPON®, City of Hope, Duarte, CA; Wendy Landier, RN, MSN, CPNP, CPON®, City of Hope, Duarte, CA; Dhvani Bhatt, RD, City of Hope, Duarte, CA; Anne Arewwasikporn, BA, City of Hope, Duarte, CA; Liton Francisco, BS, City of Hope, Duarte, CA; Claudia Herrera, CRA, City of Hope, Duarte, CA; Smita Bhatia, MD, MPH, City of Hope, Duarte, CA

Being overweight or obese is a well known problem in the general population and in some subsets of childhood cancer survivors. Control or prevention of obesity may assume even greater importance when adolescent and young adult (AYA) cancer survivors have received treatment predisposing them to conditions linked with excessive weight, such as dyslipidemia, type II diabetes, hypertension, and cardiovascular disease.

The purpose was to determine the overweight or obesity status of patients being seen in the Childhood Cancer Survivorship Clinic in order to customize patient education related to diet, exercise, and their specific potential health risks associated with excessive weight.

Body Mass Index (BMI) was calculated using the Centers for Disease Control (CDC) website (<http://www.cdc.gov/nccdphp/dnpa/healthyweight/assessing/bmi/index.htm>). Patients were categorized as normal (BMI < 25 kg/m<sup>2</sup>), overweight (BMI 25 - < 30 kg/m<sup>2</sup>) or obese (BMI > 30 kg/m<sup>2</sup>); calculations were adjusted for survivors < 18 years of age using the International Obesity Task Force methodology. Overweight and obese AYAs received tailored education from the nurse practitioner or physician addressing their specific therapy-related risks for metabolic and cardiovascular disease. The clinical dietician performed a nutritional assessment based on dietary and exercise habits and provided weight management counseling, including recommendations for appropriate dietary intake and suggestions for heart-healthy physical activities. Written materials were provided regarding beneficial food choices and initiation of weight loss and exercise programs.

Of the 315 patients in the City of Hope (COH) program, 222 (221 evaluable) were between the ages of 15-39 years at their initial visit. Fifty-two percent (116) of these AYA survivors were either overweight or obese.

Being overweight or obese may have an even greater impact on the general health of AYA survivors as they age due to previous cancer treatments associated with increased risk for cardiovascular disease, dyslipidemia, and other late effects that may be exacerbated by excessive weight and sedentary lifestyle. Consequently, health care providers should be vigilant in providing follow-up care for AYA cancer survivors that incorporates annual monitoring of BMI and physical activity, while patient education should include a focus on interventions to promote healthy eating, physical activity, and weight management.



**UTILIZING THE ONS OCN® CURRICULUM FOR REGISTERED NURSE ORIENTATION IN A COMPREHENSIVE CANCER CENTER.** Martha Kershaw, RN, BSN, OCN®, Roswell Park Cancer Institute, Buffalo, NY; Erin Mouyeos, RN, BSN, Roswell Park Cancer Institute, Buffalo, NY; Mimi Haskins, MS, RN, CMSRN, Roswell Park Cancer Institute, Buffalo, NY; Elizabeth Owens, RN, MS, OCN®, Roswell Park Cancer Institute, Buffalo, NY

The specialty of oncology nursing requires orientation to include oncology specific concepts to assist newly licensed or newly hired Registered Nurses in understanding the special needs of the population of patients they will be caring for. At the same time, experienced oncology nurses at our facility were looking for assistance to be successful in completing the OCN® exam.

In order to maximize nursing education efforts, providing for new and incumbent staff, we incorporated the ONS: Core Curriculum for Oncology Nursing into our existing RN orientation program.

Regularly scheduled Nursing Orientation classes now include specific oncology nursing content from the core curriculum that is required for orientees. This content provides the new nurse with a basic preparation to establish their practice in oncology and has also been made available for CEU opportunities for existing RN staff. The classes offered cover 47% of the content found on the OCN® exam based on the OCN® blueprint allowing the new nurse a basic preparation, and assisting the experienced nurse with focus areas in preparation for the exam.

Participants will complete a survey at the end of the program. The survey for experienced staff will focus on effectiveness of the program as a tool for successful completion of the OCN® exam.

The combination of these two groups has several benefits. New staff members encounter expert staff in the neutral setting of the classroom developing relationships prior to starting their clinical orientation. Experienced staff benefit from the accessibility of the classes, providing them with CEU, and a focus for their independent preparation for the exam. Previously OCN® review classes were offered bi-annually. This addition of OCN® content to nursing orientation increases the number of opportunities for staff to participate in a formal review of content that will be helpful to them in preparing for the examination. Staff are able to attend individual pieces or all of the content. Additionally, new staff are exposed to the importance of certification in their practice, while gaining invaluable evidence-based oncology information in a classroom setting.

### 3714

**CANCER SYMPTOM ATTRIBUTION IN AMERICAN INDIAN POPULATIONS.** Emily Tesar, RN, MSN, OCN®, Billings Clinic, Billings, MT; Karyl Blaseg, RN, MSN, OCN®, BC, Billings Clinic, Billings, MT

American Indians (AI) in Montana are diagnosed at later stages of cancer than Caucasian Montana residents; fewer AI are diagnosed at stage I and II disease, and more at time of stage III and IV cancers. AI face many external barriers that certainly contribute to these findings: lack of insurance, difficulty with maneuvering Indian Health Services (IHS), lack of funding for IHS to conduct appropriate and timely screenings; cost of transportation, housing, and child care. However, there has been little research into AI symptom attribution (internal barriers), and a literature review did not find any research examining this phenomena.

The purpose of this pilot study is gain an understanding of how American Indians (AI) attribute cancer symptoms, and how current education targeting AI regarding cancer screening and early detection should be modified. The Oncology Nursing Society (ONS) states "oncology nurses strive to provide comprehensive cancer prevention education and early-detection services in a manner consistent with the cultural background and healthcare beliefs of individuals and families."

Grounded theory is the qualitative approach that emphasizes the importance of the context within which people function via a phenomenon known as symbolic interactionism. Symbolic

interactionism views the individual as being active rather than passive, by planning, projecting, and creating actions based upon interpretations of each other's behaviors.

AI from the Crow, Fort Peck, and Northern Cheyenne Reservations undergoing cancer treatment at Billings Clinic will be asked several open-ended questions about early cancer symptoms and personal attribution of those symptoms. Interviews will be recorded and transcribed. Interview transcripts will be the source for data analysis.

This study will be initiating January 2009. However, the major practice implications of this pilot study are to provide culturally relevant cancer screening and early detection education to AI. Additionally, a substantive grounded theory will emerge accounting for the experience of cancer among AI. What this theory will be cannot be predicted, nor can the possible nursing implications. The likelihood is great for emergent hypotheses that could be verified by quantitative studies.

### 3716

**IMPROVING COMMUNICATION USING A CANCER TREATMENT SCHEDULE TOOL.** Kathy Christian, RN, BSN, OCN®, CMSRN, Providence Holy Cross Medical Center, Mission Hills, CA; Tanya Haight, RN, OCN®, ONC, Providence Holy Cross Medical Center, Mission Hills, CA

Administration of chemotherapy is a complex, high risk process requiring clear communication between caregivers to ensure that patients receive their treatment in a timely and safe manner. The Joint Commission has identified the need to reduce patient harm by improving the effectiveness of communication among caregivers. Providence Holy Cross Medical Center had recently implemented a computerized documentation system which presented challenges expressed by the oncology nursing staff regarding communication of complex chemotherapy regimens. A need was identified to develop a tool to assist the oncology nurses to safely and accurately organize and communicate all chemotherapy orders.

The purpose of this project was to develop a cancer treatment schedule tool as a quality improvement project to increase safety, staff awareness, communication, and understanding of chemotherapy regimens. The tool was also designed to increase job satisfaction and to enhance patient care.

Input was obtained from the oncology staff nurses and a tool was developed to capture daily chemotherapy orders including: pre-medications, daily medications, and daily laboratory testing. Education to the nursing staff was provided on the use of the new tool. Written chemotherapy orders are transferred to the tool for easy reference and tracking by each nurse.

The tool was anonymously evaluated by the oncology nursing staff using a four point Likert Scale measuring 6 elements pre and post implementation of the new tool. Response rate was 100% (N=18). Nurses reported that the tool improved patient safety, communication, timeliness, and understanding of chemotherapy regimens.

Survey results show that communication among caregivers was enhanced by the use of the Cancer Treatment Schedule Tool. Nurses reported a positive impact on nursing satisfaction regarding handoff among caregivers. Clear and concise communication of chemotherapy orders is essential to ensure safe nursing practice and quality patient care.

### 3720

**THE EFFECTS OF ALPHA LIPOIC ACID AND VITAMIN B6 ON PATIENTS WITH CHEMOTHERAPY-INDUCED PERIPHERAL NEUROPATHY.** Eleanor Flores, RN, FNP-BC, AOCNP®, San Diego Pacific Oncology and Hematology Associates, La Jolla, CA; Kathleen Haley, RN, FNP-BC, AOCNP®, San Diego Pacific Oncology and Hematology Associates, La Jolla, CA

Peripheral neuropathy is a common side effect among cancer patients being treated with various chemotherapy agents. This

chemotherapy induced peripheral neuropathy (CIPN) often impacts patients' quality of life (QOL) while also limiting treatment options and optimal drug dosing. No one treatment has been found to greatly improve symptoms of CIPN. For these reasons, ONS has identified the need for research in the area of identifying and treating peripheral neuropathy.

Two vitamins that may show promise in treating CIPN are alpha-lipoic acid (ALA) and vitamin B6. Research has shown these two vitamins play an important role in neurologic processes in the body. The purpose of this study was to explore the effects of ALA and B6 on patients with CIPN and its impact on their QOL.

QOL has become an important measurement in determining successful cancer treatment and the driving force behind this research. Ferrell's QOL Model identifies four major components of QOL: physical, social, psychological, and spiritual well-being. This model was used as the theoretical framework, as the effects of CIPN on a patient disrupts QOL by impacting both physical and social aspects of life.

This retrospective, qualitative study was conducted in a private oncology office. The convenience sample of ten patients who had taken ALA and B6 for CIPN were asked to participate. Data collection consisted of chart reviews and patient interviews. Grading of the CIPN was based on the National Cancer Institute Toxicity Scale. QOL functional status was assessed utilizing components of the Dartmouth Primary Cooperative Group Information Project Tool. The study was approved by the Institutional Review Board and patient consent was obtained before conducting the interviews.

Results showed a decrease in the severity of CIPN in these patients with improved numbers in the NCI Toxicity Scale as well as the Dartmouth Functional Scales. Personal patient accounts of improvement in their CIPN were impressive. This small qualitative study is an important step to understanding the benefits of ALA and B6 in improving CIPN symptoms. A more objective and controlled study is warranted to statistically confirm these findings.

### 3721

**ROUND AND ROUND AND ROUND WE GO TO ASSURE EXEMPLARY PROFESSIONAL PRACTICE.** Nicole Reimer, BSN, RN, OCN®, Lehigh Valley Health Network, Allentown, PA; Laura Herbener, RN, OCN®, Lehigh Valley Health Network, Allentown, PA; Deidre Kutzler, BSN, RN, Lehigh Valley Health Network, Allentown, PA

Recent research demonstrated a protocol that incorporates specific actions into patient rounds can reduce the frequency of patients' call light use, increase their satisfaction with nursing care, and reduce falls. The evidence is also definitive that collaborative rounding by clinicians caring for a patient, as well as management rounds to patients and with staff, are associated with enhanced clinical outcomes and patient and staff satisfaction.

Evidence regarding rounding for a variety of purposes was the catalyst for staff on a 26 bed medical-surgical oncology unit in an academic, community Magnet hospital to design and implement six rounding methods for their patient population. The goal was to create a transforming experience for both patients and staff by hardwiring the different rounding strategies as standards of care. This presentation will detail each of the six rounding methodologies, outcomes achieved, and strategies to achieve success.

The six rounding methods are: 1) hourly patient rounds by registered nurses and assistive personnel; 2) daily patient collaborative rounds by the interdisciplinary care team; 3) daily clinical rounds to patients with their care-givers by the unit-based advanced practice nurse; 4) daily patient rounds by the unit manager; 5) quarterly rounds to patients and caregivers by senior nursing management; and, 6) safety rounds by senior executives. Collaborative rounds have occurred for many years, while the other rounding strategies were formalized and consistently implemented July, 2008.

A variety of metrics are evaluating effectiveness of the rounding strategies, to include: patient, staff and physician satisfaction and

nurse sensitive quality indicators. Most recent outcomes include: overall nursing satisfaction raw scores in the 90's; nursing vacancy rate of 0, with no nursing turnover since July, 2008; physician satisfaction with nursing scores exceeding benchmarks; and, a decreasing fall rate.

Many organizations have instituted rounding concepts, but few have utilized the evidence to create a compendium of rounding strategies to impact patient care management. The associated 'standard operating procedures,' such as scripting and checklists, utilized within each of the six rounding methods by this Magnet staff can be utilized to positively impact satisfaction, clinical quality and safety of the oncology patient.

### 3722

#### **BONE HEALTH PROMOTION IN THE CANCER SURVIVOR.**

Carolyn Maguire, RN, Memorial Sloan Kettering Cancer Center, New York, NY

Cancer survivors are living longer as a result of earlier diagnosis and improved treatment. Increasing age combined with cancer treatments that affect bone health have resulted in an increasing incidence of osteoporosis among cancer survivors. Lumbar spine BMD loss following one year of hormonal cancer therapy or chemotherapy ranges from 2.6% to 7.7%. In 2005, osteoporosis-related fractures were responsible for an estimated \$19 billion in healthcare costs. By 2025, experts predict these costs will rise to approximately \$25.3 billion. Nurses must be proactive in identifying and educating patients at risk for osteoporosis and initiating appropriate screening and therapy.

The purpose of this project is to increase nursing awareness of bone health in cancer survivors by presenting evidence-based nursing education to outpatient oncology nurses via a nursing newsletter.

Clinical information on maintaining bone health after a cancer diagnosis was developed as a nurse-authored article for the outpatient nursing newsletter. The article was distributed to all nurses in the outpatient oncology setting at a NY cancer center.

Nurses who read the newsletter acknowledged an increased understanding of bone health and will incorporate the promotion of bone health into the patient plan of care. The nurse will be able to identify patients at increased risk, suggest diagnostic screening tests and counsel patients on treatment. Proactive management by oncology nurses will reduce patient fractures and improve quality of life during survivorship.

Nurses must be proactive in identifying patients at risk for osteoporosis and initiating appropriate screening and therapy. There are many risk factors other than cancer treatment that affect bone health. Some risks such as age, gender or family history cannot be modified. Other risks – diet, calcium & vitamin D intake, active lifestyle and smoking – are modifiable. Protecting bone mass is an integral part of ongoing surveillance of cancer patients whose therapy regimens predispose the patient to skeletal damage so that interventions can be initiated before fractures occur. Providing nurses with a reader-friendly, evidence-based bone health newsletter increases clinical knowledge about osteoporosis and may improve patient clinical outcomes.

### 3725

#### **DEVELOPMENT OF NURSING-SENSITIVE QUALITY MEASURES FOR BREAST CANCER USING ONS PUTTING EVIDENCE INTO PRACTICE (PEP®) RESOURCES.**

Lori Hoffman Hogg, RN, MS, AOCN®, Stratton VA Medical Center, Albany, NY; Rebecca B. Donohue, MSN, FNP-C, AOCN®, APNG, Acadiana Medical Oncology, Lafayette, LA; Susan Beck, PhD, APRN, AOCN®, FAAN, University of Utah College of Nursing, Salt Lake City, UT; Vicki D. Marsee, RN, MBA, NEA-BC, H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL; Diane M. Otte, RN, MS, OCN®, Cancer Center of Franciscan Skemp Healthcare, La Crosse, WI; Amy Strauss Tranin, ARNP,

MS, AOCN®, University of Kansas Hospital Cancer Center, Kansas City, KS

Effective healthcare reform demands that oncology nursing-sensitive quality indicators are identified to ensure quality cancer care, yet, no standardization in the process of performance measurement exists. ONS established the core data set project team in 2007 to identify and develop a core set of common data elements for measurement and collection of nursing-sensitive patient outcomes to promote quality cancer care. Work of the team resulted in a recommendation to develop a comprehensive approach to quality that builds on existing ONS Putting Evidence into Practice (PEP®) Resources and integrates ONS quality initiatives into national cancer quality efforts. This was the springboard for the Oncology Nursing-Sensitive Quality Indicators project funded by the National Philanthropic Trust.

Conduct a thorough assessment of the process and infrastructure utilized by national organizations to develop and test quality indicators/measures in various practice settings; develop a process to create and test quality indicators/measures; select targets for distribution; identify resources required; create resources to develop and test prototype quality indicators/measures in breast cancer.

In-depth interviews were conducted to investigate the process and infrastructure of eight key national organizations regarding development and testing of quality indicators/measures. These organizations were invited to present at the quality indicators team meeting. Subsequently, an Oncology Nursing Quality Indicators Summit was convened involving select ONS PEP® Resources authors, the QI Project Team, and The Joint Commission Quality Measures Development experts to educate and then develop an initial set of quality indicators.

Experts reviewed existing breast cancer quality indicators and an inventory of nursing sensitive indicators was created. A draft set of quality indicators addressing the common symptoms/side effects experienced by newly diagnosed women with breast cancer was developed.

Outcome of this work will be a candidate list of nursing-sensitive quality indicators that builds on existing ONS PEP® Resources and measures from other organizations. This poster presentation will detail the entire process. The majority of measure sets are treatment focused which offers an opportunity for oncology nurses to incorporate their strengths – symptom management, care coordination, and patient and family engagement in care.

### 3726

**THE DEVELOPMENT OF A PATIENT SELF-CARE TOOL FOR THE CARE AND MANAGEMENT OF TUBE FEEDINGS.** Katrice Royster, RN, MS, OCN®, University of Maryland Marlene and Stewart Greenebaum Cancer Center, Baltimore, MD; Donna Mitzel, RN, OCN®, University of Maryland Marlene and Stewart Greenebaum Cancer Center, Baltimore, MD; Mindy Athas, RD, LDN, CDE, University of Maryland Marlene and Stewart Greenebaum Cancer Center, Baltimore, MD; Allison Gittens, RN, University of Maryland Marlene and Stewart Greenebaum Cancer Center, Baltimore, MD; Kristen Virts, RN, BSN, OCN®, University of Maryland Marlene and Stewart Greenebaum Cancer Center, Baltimore, MD; Jean Atayan, RN, BSN, University of Maryland Marlene and Stewart Greenebaum Cancer Center, Baltimore, MD; Father William Spacek, University of Maryland Medical Center, Baltimore, MD

During the course of cancer treatment, many oncology patients require some type of enteral nutrition to support their nutritional needs and to enable them to complete their therapy as planned. While many oncology patients receive enteral nutrition in the hospital, some require a continuation of this at home. With the increased use of outpatient therapies, the number of patients who require enteral nutrition at home has increased. Patients who will

be discharged to home on enteral nutrition need to know how to care for and manage their feeding tubes.

Inpatient oncology patients and their care takers often receive an enormous amount of information in preparation for discharge. Patients and caretakers prefer to have written material that they can refer to at home. Our cancer center patient education committee identified the need for patient education materials to help patients and their caretakers manage enteral nutrition at home. This poster describes a specialized oncology patient discharge teaching tool created to help patients and caretakers perform effective self-care at home.

Members of our Patient Education Committee include representatives from nursing (inpatient and ambulatory), nutritional support and pastoral care. The Committee reviewed the evidence (research and non-research based) to develop an evidence-based teaching guideline on the care and administration of enteral feeding in the home setting.

The teaching guidelines were piloted with several patients. Patients and care takers reported that the guidelines were easy to understand and use at home. Information given during hospitalization was reinforced through the teaching guidelines. Patients and caretakers found them to be a helpful resource. The teaching guidelines were approved by our hospital multidisciplinary patient education committee. The teaching guidelines have been fully implemented and are available as a teaching resource on our intranet. Evaluation from patients and family members is on-going.

Having evidence-based teaching guidelines is helpful for nurses to standardize discharge teaching related to self care management of enteral feeding in the home setting. Because patients and families receive so much information prior to discharge from the hospital, they appreciate having clear concise guidelines to refer to once they are home.

### 3730

**DELIVERING ON A PROMISE TO DESIGN AN EFFECTIVE GRADUATE NURSE TRANSITION PROGRAM—OUTCOMES AT 8 YEARS.** Deena Dell, MSN, RN-BC, AOCN®, Fox Chase Cancer Center, Philadelphia, PA; Joanne Hambleton, RN, MSN, NE-BC, Fox Chase Cancer Center, Philadelphia, PA; Maureen Mullin, RN, BSN, OCN®, CHCR, Fox Chase Cancer Center, Philadelphia, PA

Based on nursing workforce studies and economic predictions in 2000, Fox Chase Cancer Center began, in the Spring of 2001, hiring new graduate nurses (NGNs) as a source of “nurse power.” As previously reported, we accepted the following assumptions: NGNs enter the workforce with minimal clinical oncology experience, employers must develop orientation programs that foster growth and development by breaking down competencies into small tasks and retention is linked to successful orientation experiences. In order to maximize the experience and minimize stress, we budgeted the positions above our staffing complement, allowing us to count orientation time as non-productive hours.

The purpose was to validate our return on investment and to encourage others to develop such a program.

Results of standardized evaluation tools utilized at baseline and 1 year measuring organizational commitment, professional autonomy and self-confidence in clinical skills have been previously reported and will be reviewed. Statistics will be updated regarding retention, resignation patterns, turnover/vacancy statistics and professional participation within the organization as well as outcomes of subjective evaluation tools. Budgetary considerations including startup cost, budgeted dollars throughout the years and grant support will be evaluated.

National studies have identified NGN turnover rates of 30% at 1 year and 57% at 2 years. Our turnover rates are 10% at 1 year and 20% at 2 years. At an estimated cost as high as \$145,000 to replace an RN, our low turnover rates have resulted in significant savings. Additionally, we have received grant support of



\$850,000 over the last 4 years which has further offset expenses. Most excitingly, NGNs are performing at a competent level on our clinical ladder at 12 months. Prior to the implementation of this structured, faculty led curriculum, new graduates required a minimum of two full years to achieve competent level on our clinical ladder.

The nursing shortage continues to impact nursing practice globally, yet the economy begs the question, are extensive transition programs cost-effective and how do they affect nurse competence and patient care? Our favorable outcomes will be reviewed to support the investment of money and time in new graduate training and support.

### 3731

**PUTTING EVIDENCE INTO PRACTICE: THE AMBULATORY NURSE'S RECOGNITION OF AND RESPONSE TO DEPRESSION IN THE ADULT CANCER PATIENT.** Jill Solan, RN, MS, ANP, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY; Anthony Delacruz, RN, BSN, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY; Richard F. Brown, PhD, Memorial Sloan Kettering Cancer Center, New York, NY

Depression in the adult cancer patient is prevalent and most studies estimate that 25% of patients meet criteria for having a major depressive syndrome. Research demonstrates that nurses often fail to recognize depressive symptoms in their patient population. Nurses devote a great deal of time in caring for their patients and are in prime positions to identify and respond to their depression.

A review of the literature confirmed that patients, family members and health care providers often have misconceptions about depression and face a number of barriers that obscure its recognition. A collaborative initiative involving the divisions of nursing and behavioral sciences addressed the question: Can communication skills training (CST) improve the nurses' ability to recognize and respond to a patient's depression?

Two workshops were developed to meet the objectives of the CST program. In the first workshop, nurses were taught basic communication skills. The second workshop provided them with specific skills needed to identify and respond to a patient's depression. This combined a didactic session that provided an overview on depression including risk factors, barriers, symptoms and treatments options. Six key communication strategies and skills were introduced. The nurse participants practiced these skills and strategies using videotaped role-play with actors who portrayed patients and feedback from trained facilitators.

Twelve nurses participated in the pilot program. Pre and post-training assessment of the participant's communication skills were performed using video recorded patient assessments. Each participant was rated on a four point scale by expert raters. Course evaluations at the conclusion of each workshop were completed by each nurse rating their confidence level in dealing with patient depression.

Statistically significant improvements in ratings of the nurse's attempts at 3/6 strategies were observed after training and a trend to significance was observed in a fourth strategy. Participants also indicated increased confidence in discussing depression. Early results of the program are favorable and an application has been submitted for a NIH R21 grant to support future training programs. Patient depression is a common problem this program has potential in training nurses in all practice areas to identify and recognize depression.

### 3732

**INCORPORATING SPIRITUALITY INTO END-OF-LIFE AND POSTMORTEM CARE.** Teresa Smith, RN, MS-ANP-C, OCN®, CHPN, M. D. Anderson Cancer Center, Houston, TX; Emylinda Basa, RN, BS, CHPN, M. D. Anderson Cancer Center, Houston, TX; Patricia Ewert-Flanagan, RN, MSN, APRN, BC,

CNS, M. D. Anderson Cancer Center, Houston, TX; Catherine Tilley, RN MS, CHPN, M. D. Anderson Cancer Center, Houston, TX

Evidenced based spiritual care is a major component of Oncology Nursing practice. Assisting patients and their families as death approaches depends on the ability of the staff to understand both the physical and psychological needs of the patient and their family. Each culture requires significantly different approaches. Ethnicity contributes the greatest difference in our beliefs about death, more than any other demographic characteristic. Culturally sensitive care is mandated by the Joint Commission, Oncology Nursing Society, Hospice and Palliative Nursing Association. The End of Life Nursing Education Consortium and the Dying Patients Bill of Rights guarantee patients spiritually sensitive care regardless of the beliefs of the caregiver.

The purpose of this project is to develop evidenced-based clinical practice cards for the five major religions; Christian, Jewish, Muslim, Hindu and Buddhist, to be used by nurses at all levels of practice. While there are multiple resources available to research the practices for death and dying and post mortem care, there is no one source that provides nurses easy access to clinical, hands-on, practical information for bedside care.

Clinical practice cards have been developed based on the most current research for each of the five major religions. The cards have been validated by religious leaders within the immediate community and updated based on their expert input. The cards will be used by the bedside staff of the Acute Palliative Care Unit, re-evaluated and updated based on input from the nursing staff.

The cards will be assessed by survey methodology to judge information ease of use, and to assess if the cards provided a practical and valuable guideline to staff that are unfamiliar with practice and rituals in cultures and religions. The cards will assist the nurse by providing a quick insight to the needs of the patient and their family. This will empower the nursing staff to give better care and enable them to ask better questions. The end result will be to significantly increase the evidenced-based spiritual care given to patients at the institution during both end-of-life and post mortem care.

### 3733

**CANCER SURVIVORS' USE OF HEALTH-PROMOTING BEHAVIORS.** Martha Meraviglia, RN, CNS, PhD, University of Texas at Austin, School of Nursing, Austin, TX; Sherry Morgan, RN, BSN, University of Texas at Austin, School of Nursing, Austin, TX; Alexa Stuijbergen, PhD, RN, University of Texas at Austin, School of Nursing, Austin, TX; Dawn Parson, RN, BSN, Seton Health Care Network, Austin, TX

Many people in the U.S. have difficulty maintaining their health during the cancer experience because they encounter multiple barriers to acquiring or participating in health-promoting behaviors. Socioeconomic factors (e.g., low income and lack of health insurance) are especially difficult to overcome and are associated with lower use of health care, poorer overall health, and shortened survival. A recent report showed that only 7.4% of cancer survivors engage in HP behaviors.

Identifying health-promoting (HP) behaviors of low-income survivors, a vulnerable population in oncology nursing, will benefit those with cancer by providing them with information and support to enhance their health and quality of life. The purpose of this study was to explore HP behaviors and their relationships to perceived health and quality of life.

The conceptual framework is derived from Stuijbergen's explanatory model for health promotion within chronic conditions.

After giving consent to participate, people who had been diagnosed with cancer at least six months completed a study packet assessing personal and cancer characteristics, HP behaviors (health responsibility, stress management, physical activity/exercise, nutrition, interpersonal relations, and spiritual growth),

self-efficacy for engaging in HP behaviors, outcome variables (physical and functional health, quality of life). Descriptive and multivariate statistics were conducted using SPSS.

Fifty-one participants varied greatly in terms of age, ethnicity, education, marital and employment status. The majority described their physical health as fair with some disability (57%) and functional health as being able to do their usual activities (67%). Participants scored highest on the HP behaviors of health responsibility, interpersonal relations, and spiritual growth and lowest on stress management and physical activity/exercise. Several significant relationships were found between HP behaviors and outcome variables: physical activity/exercise and spiritual growth were positively related to physical health; stress management was positively related to social, emotional, and spiritual dimensions of quality of life; nutrition was positively related to emotional quality of life; interpersonal relations and spiritual growth were related to social, emotional, functional, and spiritual quality of life.

These findings provide important information on the HP behaviors of low-income cancer survivors. Many cancer survivors engage in some HP behaviors following the diagnosis of their cancer with significant relationships existing between HP behaviors and perceived health and quality of life.

### 3734

**CULTURAL INFLUENCES ON THE USE OF INTERNET CANCER SUPPORT GROUPS: ASIAN AMERICANS.** Eun-Ok Im, PhD, MPH, RN, FAAN, Univ. of Texas at Austin, Austin, TX; Bok Im Lee, PhD, MPH, Univ. of Texas at Austin, Austin, TX; Chia-Chun Li, MSN, RN, Univ. of Texas at Austin, Austin, TX; Young Ran Lee, PhD, Univ. of Texas at Austin, Austin, TX; Wonshik Chee, PhD, Univ. of Texas at Austin, Austin, TX

Culture has been reported to be a significant predictor of cancer experience of Asian American cancer patients. As a reason for the low usage rate of Internet cancer support groups among Asian Americans, their unique cultural values, beliefs, and attitudes related to Internet cancer support groups have been pointed out. However, very little is still known about them.

The purpose of this pilot study was to explore cultural influences on the use of Internet cancer support groups among Asian Americans through a 1-month online forum.

The theoretical basis was the Factors Influencing the Use of Internet Cancer Support Groups (F-ICSG) model that includes cultural factors as a major concept influencing the use of Internet cancer support groups.

The study is an 1-month qualitative online forum among Asian American cancer patients. Twenty Asian American cancer patients have been recruited through the Internet cancer support groups and Internet communities/groups/organizations for Asian Americans using a convenience sampling method. Nine topics on the influences of cultural factors on the use of ICSGs are being used (the data collection is still going on). The data have been analyzed using thematic analysis.

The preliminary findings indicated that Asian Americans preferred Internet cancer support groups to traditional face-to-face cancer support groups because of their cultural stigma attached to cancer. The participants preferred ethnic-specific Internet cancer support groups because they believed that only those from their ethnic groups could heartily understand their cancer experience. The participants were also concerned about security of the Internet cancer support groups (e.g., using their email addresses for commercial purposes, etc). The major barrier was their busy daily lives in immigration transition; mostly, they did not have time to use Internet cancer support groups. Also, those who are not savvy in using computers and the Internet did not want to disturb their family members' busy lives in order to use Internet cancer support groups. The findings suggest that Internet cancer support groups for Asian American cancer patients need to incorporate the influencing cultural factors in their design and need to be ethnic-specific.

### 3735

**THE USAGE OF INTERNET CANCER SUPPORT GROUPS AMONG ASIAN AMERICANS.** Eun-Ok Im, PhD, MPH, RN, FAAN, University of Texas at Austin, Austin, TX; Bok Im Lee, PhD, MPH, University of Texas at Austin, Austin, TX; Chia-Chun Li, MSN, RN, University of Texas at Austin, Austin, TX; Young Ran Lee, PhD, University of Texas at Austin, Austin, TX; Wonshik Chee, PhD, University of Texas at Austin, Austin, TX

With an increasing number of Internet cancer support groups, the usage of Internet cancer support groups has greatly increased among cancer patients. However, the usage rate of Internet cancer support groups among ethnic minority groups including Asian Americans tends to be low.

The purpose of this pilot study was to explore the usage of Internet cancer support groups among Asian American cancer patients and its predictors.

The theoretical basis was the Factors Influencing the Use of Internet Cancer Support Groups (F-ICSG) model that explains the relationships between the use of Internet cancer support groups and its predictors.

The study is a cross-sectional Internet survey among Asian American cancer patients. The target number of the participants is 100; the recruitment is still going on. The participants are being recruited through the Internet cancer support groups and Internet communities/groups/organizations for Asian Americans using a convenience sampling method. The instruments include self-administered questions on sociodemographic characteristics, self-reported sub-ethnic identity and disease status, the Cancer Needs Questionnaire-Short Form, the Health Information National Trends Survey questionnaire subscale on general Internet use, and the questions on the use of Internet cancer support groups. The data have been analyzed using descriptive and inferential statistics including correlation analyses and multiple regression analyses.

The preliminary findings indicated that about 20 percent of the Asian Americans were currently using Internet cancer support groups. With an alpha level of .05, the significant predictors of the usage of Internet cancer support groups included: selected sociodemographic characteristics (age, gender, and socioeconomic status), cultural factors (self-reported sub-ethnic identity, the length of stay in the U.S., the level of acculturation), need factors (psychological needs, information needs), and general Internet use. The most significant predictors except the sociodemographic factors were cultural factors. The findings suggest more in-depth studies about the influences of cultural factors on the use of Internet cancer support groups among Asian American cancer patients so that the factors could be incorporated into future development of Internet cancer support groups for Asian American cancer patients.

### 3738

**DEVELOPMENT OF A CUSTOMIZABLE, HEALTH PROMOTION-ORIENTED PROSTATE CANCER SURVIVORSHIP CARE PLAN.** Sonia Smith, RN, MSN, ACNP, City of Hope, Duarte, CA; Wendy Landier, RN, MSN, CPNP, City of Hope, Duarte, CA; Liton Francisco, BS, CCRP, City of Hope, Duarte, CA; Mauricio Arcila, BS, City of Hope, Duarte, CA; Laura Crocitto, MD, City of Hope, Duarte, CA; Smita Bhatia, MD, MPH, City of Hope, Duarte, CA

Survivorship care plans have been identified by the Institute of Medicine as an integral component of oncology care, guiding the transition from active treatment to post-treatment follow-up. Prostate cancer is the most common cancer in men; currently, there are 2.1 million prostate cancer survivors in the U.S., representing 45% of all male cancer survivors. Over 90% of prostate cancers are local or regional at diagnosis; relative survival rates for these cancers approach 100% at 5 years. However, treatment-related complications, including sexual, urinary and bowel dysfunction, hormonal changes, and psychosocial issues, can adversely affect quality of life in prostate cancer survivors. Additionally, since most

men with prostate cancer will die of other causes, the importance of health promotion is substantial and represents a significant opportunity for nurses to develop innovative educational materials and strategies to facilitate health-oriented behaviors and preventive care.

Our goal was to design and implement an easily customizable survivorship care plan incorporating health promotion strategies, aimed at providing a clear post-treatment follow-up plan for prostate cancer survivors attending our survivorship clinic.

Personalized survivorship care plans are prepared for each patient attending City of Hope's Prostate Cancer Survivorship Clinic. The nurse practitioner, who is the primary provider in the clinic, generates each care plan from a standardized template, customizing the plan with demographic, diagnostic, and treatment-related information merged from the clinic's Microsoft Access database. Recommendations for follow-up care, health promotion strategies specific to each patient's age, medical history, and co-morbidities, and links to additional resources are also incorporated.

Using a standardized template, the nurse practitioner can generate a customized survivorship care plan in approximately 10 minutes. Incorporation of the care plan into clinical visits has increased opportunities for providing high-quality, personalized health education. Patient satisfaction with the survivorship care plans has been uniformly high.

By incorporating a record of cancer diagnosis, treatment, recommendations for follow-up, and health promotion into one succinct document, the nurse provides prostate cancer survivors with a clear follow-up plan that can be used both by the survivor and his healthcare providers to optimize health promotion and post-treatment care.

### 3739

**DEVELOPMENT OF A CHEMOTHERAPY/BIOOTHERAPY FLOWSHEET FOR AN IN-PATIENT ONCOLOGY UNIT.** Kristie Howlett, RN, MS, CNS, OCN®, Sutter Roseville Medical Center, Roseville, CA

Accurate nursing documentation is an important aspect of the patient's medical record and fundamental legal responsibility of the nurse providing care. Documentation is especially important when a patient is receiving chemotherapy and/or biotherapy. On our unit many key elements of care were not being documented (i.e., infusion duration, assessment of site, verification of blood return, and patient tolerance after therapy, etc.). Also, there were a number of different places within the medical record where information could be documented leading to confusion and difficulty following patient care. An initial documentation audit was conducted to identify gaps in documentation. Data was analyzed and confirmed the lack of documentation. This project also became a quality improvement goal for our cancer program accreditation with the American College of Surgeons.

The goal was to develop a documentation tool that could be used as the key place to document all of the necessary information required when administering and caring for a patient receiving chemotherapy and/or biotherapy.

Gaps identified in the initial audit and ONS guidelines for documentation of chemotherapy and biotherapy were integrated into a single flow sheet titled "Chemotherapy/Biotherapy Flow Sheet." This tool was developed by the CNS with input from our oncology clinical practice council (CPC), and was later endorsed by the oncology CPC.

The completed "Chemotherapy/Biotherapy Flow Sheet" was reviewed and endorsed by the cancer committee, and the finalized version has been placed on our intranet for easy access and print out. Our unit is currently undergoing a second documentation audit to review and address whether the form is meeting our documentation goal. Initial data is showing that the nursing staff is documenting necessary components when caring for a patient receiving chemotherapy and/or biotherapy.

The audit, development, and implementation of a tool specifically to document chemotherapy may help other medical oncol-

ogy units that are struggling to obtain compliance with documentation of the necessary components. It was extremely beneficial to include the cancer committee, as well as the oncology CPC who are the end users of the form.

### 3740

**IMPACT OF AN EDUCATION AND SUPPORT PROGRAM ON ONCOLOGY SUPPORT STAFF.** Paula Goodman, OCN®, Georgetown University Hospital, Washington, DC; Linda Miller, RN, BSN, MSN, Georgetown University Hospital, Washington, DC; Jenna Shea, RN, BSN, Georgetown University Hospital, Washington, DC

Care of the cancer patient encompasses management of physical and psychosocial needs, throughout the continuum of the illness. Healthcare providers in an oncology setting often develop long-term relationships with the patients/families. There are rewards but the demanding nature of this work can have an impact on levels of stress, job satisfaction and burnout. Care teams include nursing assistants, and clinical technicians, non-licensed personnel who provide comfort care; and unit secretaries, who are a crucial link in the chain of communication for optimal care. Research has documented the emotional impact of this care for nurses, physicians and other health care professionals and programs to enhance coping strategies for this group. There is little or no evidence of the effects of coping strategies on oncology support staff, the 'forgotten team members.'

The purpose was to measure impact of a formalized education and support program on the oncology support staff at an academic hospital.

This study builds on the conceptual/theoretical framework that cancer care is stressful. If the challenges inherent in the oncology environment are addressed, job satisfaction will be positive.

This descriptive study uses questionnaire/survey to establish baseline values and measure the impact of a targeted educational/support program on job satisfaction, work relationships, personal accomplishment and emotional exhaustion for the support staff. Methodology: 1) pre-program Work Experience Survey with demographic data and drawn from Cashavelly 1, Ulrich 2 and the Maslach Burnout Inventory 3 ; 2) Three sessions: a) an educational program on cancer as a disease, symptom management and end-of-life care; and b) two support group sessions including discussion of patient/family relationships, coping with death and dying, value and recognition from professional staff, balancing job role and emotional impact of the job; 3) post-program Work Experience Survey. Descriptive statistics will be used for the pre/post surveys. Comparative analysis will determine the impact of the program on baseline measures.

Pre/post program analysis will be completed after the final session. Feedback from the stressed staff is the sessions thus far have been helpful.

### 3741

**EDUCATING ONCOLOGY NURSES ON A NEW ACUTE LEUKEMIA DIAGNOSTIC WORKUP.** Nancy Corbitt, RN, OCN®, University of Maryland Greenebaum Cancer Center, Baltimore, MD

A new diagnosis of acute leukemia requires an immediate and extensive diagnostic evaluation that includes the need for multiple blood samples and bone marrow biopsies. They are used for immunophenotyping and cytogenetic and molecular genetic determinations. Results from these tests provide information about the type of leukemia present, help to determine the treatment plan and prognosis, as well as to monitor the patient's response to therapy. Patients and families have anxiety about these diagnostic tests and usually have many questions about why they need so many tests done. Oncology nurses who care for these patients must have the knowledge to be able to answer these questions and provide accurate patient and family education. When nurses understand the rationale for these diagnostic procedures, they are able to articulate



answers to questions from patients and family members and thus decrease anxiety and increase satisfaction with care.

The purpose of this poster is to describe the rationale for selected diagnostic tests used in the initial workup of patients with acute leukemia.

The rationale for the following diagnostic tests will be presented: staining techniques and morphological classifications of blood cells, use of laser and computer technology with immunophenotyping with flow cytometry, genetic analysis and identification of chromosomal structures using fluorescence in situ hybridization.

Oncology nurses who review this poster will gain a deeper understanding of the rationale for selected diagnostic tests used in the initial workup of patients with acute leukemia. This will enhance their ability to provide their patients and families timely and accurate education.

Knowledge gained from this poster will increase oncology nurses' confidence in providing accurate information to patients and family members during this stressful time. Patients and family members need to understand the rationale for these diagnostic tests so they can more fully participate in their treatment plan.

### 3742

**WORKING SMARTER, NOT HARDER . . . TO CARE FOR PATIENTS WITH MUCOSITIS.** Mina Ford, MSN, RN, OCN®, Martha Jefferson Hospital, Charlottesville, VA

Cancer patients have many side effects due to chemotherapy and/or radiation treatments. One side effect, mucositis, can occur in 20-40% of patients treated with chemotherapy alone and up to 50% of patients receiving combination therapy, especially head and neck cancer patients.

The nurses on South 7 at Martha Jefferson Hospital take care of many head and neck cancer patients and wanted to provide more consistent care and documentation of the interventions implemented. The goal was to use evidence-based research and our electronic documentation system, Powerchart, to develop guidelines to consistently manage mucositis for head and neck as well as other cancer patients.

After a literature review was completed using the ONS PEP cards and CINAHL search engine, the staff developed evidence based mucositis guidelines. Eiler's Oral assessment was added to Powerchart, because there was currently no oral assessment. Once an assessment is completed in Powerchart, interventions based upon the severity of the mucositis are placed on the patient care activity list (PAL). PAL is an electronic task list that helps organize the nurses' tasks by time, and documents what has been completed. This ensures all staff is consistently implementing the same interventions and they are being documented. The National Cancer Institute Common Terminology Criteria for Adverse Events was also placed on Powerchart so the nursing staff and physicians were using the same scale and changes could be noted quickly. The team reviewed the current patient education to ensure it reinforced what was being implemented on the unit. When the guidelines were in place, education was provided to the staff.

Now that the Mucositis guidelines are in place, staff is more consistent with completing oral assessments and completing the appropriate interventions. Powerchart ensures that the patient's mucositis is recorded consistently and documents the interventions implemented.

The process to develop mucositis guidelines helped the staff better manage mucositis, but also how to do a literature review, implement evidence based research, and provide more consistent care by using Powerchart. During this process the nurses learned how to work smarter, not harder to provide better mucositis care.

### 3743

**EFFECTIVENESS OF SELF-LEARNING MODULES: THE DEVELOPMENT OF AN ONLINE LEARNING TOOL FOR NURSES WHO ADMINISTER INTERLEUKIN-2.** Catherine

Levy, MS, BSN, National Cancer Institute/NIH, Bethesda, MD; Paula Muehlbauer, MSN, RN, OCN®, Clinical Center Nursing Department, NIH, Bethesda, MD

Web based learning tools provide readily accessible training and education. Self directed learning methods can assist nurses meet challenges associated with maintaining required competency. Research and clinical staff at a large research cancer hospital collaborated to develop online self learning modules (SLM) for nurses who administer Interleukin-2 (IL-2).

The purpose of these modules is to teach nurses about the administration and side effects associated with IL-2.

Teaching methods in this SLM include a blended learning approach to address this complex therapy. These modules include supplemental readings, review questions, a post test, and are readily available for nursing staff 24/7. After completion of the SLM, a hands on practicum using a mentor provides further understanding for IL-2 administration.

The online SLM for IL-2 consists of four modules. Three modules include a review of the immune system, an introduction to IL-2 and its administration, and the systemic side effects associated with IL-2. The use of interactive media during the first three modules involves the nurse in the learning process. The fourth module is the post-test which requires a passing score of 85%.

The target audience for this learning application is nurses caring for patients receiving IL-2. IL-2 is approved by the Food and Drug Administration making this web based learning tool applicable to many institutions.

An online survey was completed eight weeks post-test (N=37). Sixty percent strongly agreed that the IL-2 SLM was easy to navigate; 91.9% felt the material presented was the right amount, and 70.3% of respondents 'Highly prefer' a combination of online content and 1:1 with an experienced nurse. 100% stated the online format was conducive to learning.

The IL-2 SLM appears to be useful in clinical practice and provides an alternative method of teaching. These survey results demonstrate learner satisfaction with a hybrid method of online education combined with 1:1 experienced nurse interaction. Currently, the practice is for all nurses to receive 1:1 didactic hands on training with experienced nurses in addition to completing the IL-2 SLM.

### 3745

**THE MENOPAUSAL EXPERIENCE OF PREMENOPAUSAL WOMEN RECEIVING ADJUVANT CHEMOTHERAPY FOR BREAST CANCER.** Debra Barton, PhD, RN, AOCN®, FAAN, Mayo Clinic, Rochester, MN; Angelina Tan, Mayo Clinic, Rochester, MN; Pamela Atherton, MS, Mayo Clinic, Rochester, MN; Mary Collins, RN, MSN, Carle Clinic Cancer Center, Urbana, IL; Jeff Sloan, PhD, Mayo Clinic, Rochester, MN

Chemotherapy can induce premature ovarian failure and result in early menopause with unwanted symptoms such as hot flashes and decreased sexual interest. Premenopausal women initiating treatment want to know what symptoms they can expect during their treatment experience and when. Most of the studies done thus far have been cross sectional and retrospective.

This descriptive substudy was developed as part of an osteoporosis prevention clinical trial to gather prospective, longitudinal data about menopausal symptoms women experience during and after chemotherapy. Specifically, this study evaluated the relationship of climacteric symptoms to menstrual history, age, and time from start of treatment in premenopausal women beginning adjuvant treatment for breast cancer.

The theoretical framework is the UCSF School of Nursing Symptom Management model. This model asserts the gold standard for symptom assessment is self report and the symptom experience includes perception, evaluation and response. The design and measure used in this study incorporates this perspective.

152 premenopausal women completed the Greene Climacteric Scale (GCS) at baseline, monthly during chemotherapy, at six

months, one and two years after study entry. Descriptive statistics including mean scores on total and subscale scores of the GCS were calculated. Kruskal Wallis analysis of differences and regression analyses were performed.

Most women +45 ceased menstruating 6 months after starting treatment. Many symptoms peaked within months 3-6 of chemotherapy initiation but returned to baseline or better by the first follow up after chemotherapy completion. The following symptoms became more bothersome during chemotherapy, and continued so through 2 years of follow-up: sleep, numbness/tingling, muscle/joint pain, hot flashes/sweats and decreased sexual interest. Tamoxifen use predicted lower sexual interest ( $p=.01$ ) at one year. Cessation of menses predicted worse hot flashes at each time period (6 months,  $p<.01$ ; 1 and 2 years,  $<.001$  and  $.02$ , respectively). These data provide information to allow more comprehensive education by nursing to help prepare women for their treatment experience. Assessment of the symptoms listed above should be made frequently and addressed assertively to decrease negative impact on patients' quality of life.

### 3747

**NEW PATIENT EDUCATION PROGRAM FOR OUTPATIENT CHEMOTHERAPY CENTER.** Joyce Divanbeigi, MSN, Washington University School of Medicine, St. Louis, MO; Alicia Carmack, RN, ADN, OCN®, Washington University, St. Louis, MO

The need for accurate and consistent new patient teaching was realized when the physician group brought to the attention of the Clinical Nurse Manager that inaccurate and inconsistent patient teaching was being given by the nursing staff. Our Treatment Center census has grown approximately 30% since 2005, we now have 45 RN's working in the Treatment Center. The Nurse Manager requested that the Unit Practice Committee work on creating a new patient education program.

To provide accurate and consistent new patient education through various forms of communication; oral presentation set to a visual powerpoint presentation at a 6th grade reading level with a copy of the presentation in packet form for take home use and review. The major topics addressed in the presentation include: introduction to the outpatient facility; including the treatment center staff and their roles, nausea, vomiting, diarrhea, constipation, hair loss, lab values/blood counts, mouth sores, fatigue, chemotherapy, monoclonal antibodies, imodium and nutrition. The patients are also guided on a tour of the unit and meet the assistant nurse manager and/or nurse manager.

The presentation was reviewed by our oncology staff including the treatment center nurses, attending physicians, nurse coordinators, nurse educators, nurse practitioners and patients. The power point presentation was further modified after this extensive review to address our specific outpatient population of medical oncology and bone marrow transplant patients. The patient education content utilized was gathered from the National Cancer Institute, ONS PEP cards and the National Conference Cancer Network. This poster portrays specific guidelines and information to improve consistency in new patient education.

The new patient education program was approved by the Outpatient Attending Physicians, the Nurse Manager, the In-Patient Clinical Nurse Educators and the Treatment Center Nurses. A 4 question questionnaire was developed and is given at the end of the program with the ability for the patient to rate the program from excellent to poor. Since the beginning of this new program we have received mostly excellent rating scores from our patients.

Through careful and continuous evaluation of the outpatient new patient education process, we will continue to improve patient education. We have utilized several different techniques to prepare patients and families for the treatment process and the potential side effects of the treatment regimen for their specific diagnosis.

### 3749

**CHILDREN'S PERCEPTIONS OF THEIR MOTHER'S BREAST CANCER AND ITS TREATMENT: A QUALITATIVE SYNTHESIS.** Connie Johnson, RN, MN, FNP-C, MD Anderson Cancer Center, Houston, TX

In 2008, new cases of breast cancer in woman will reach 182,460. Among these women, 30% will have young children at home. When a mother has cancer her children worry about many things including whether she will die, still be able to care for them, or what will change in the family?

Analysis of children's perceptions of their mothers' breast cancer helps nurses to better understand children's fears/thoughts and ultimately enable development of evidence-based age appropriate educational materials. Nurses working in primary care or cancer treatment centers are in key positions to offer assistance to mothers with breast cancer with tips on how to communicate with their children about their illness. Talking with children about their mother's illness may help to relieve children's fears or misconceptions about cancer. Age appropriate breast cancer educational materials will assist in helping children to better understand their mother's illness and treatment.

The purpose of this review is to synthesize the findings of five qualitative studies on school-aged children's perceptions of their mother's breast cancer diagnosis and its treatment.

The five qualitative studies (four peer-reviewed journal articles, one doctoral dissertation) examined children's perceptions of their mother's breast cancer diagnosis and its treatment. Data analysis was conducted with coding/labeling and formulation of categories. Themes were developed through recurring patterns of categorical data.

The findings yielded eight distinct themes of the children's feelings and perceptions related to their mother's breast cancer. The themes included: alertness, communication, children worries, children behavioral changes, changes in mother, changes in family patterns, doing nothing, and family time.

The Critical Appraisal Skills Programme and the Qualitative Assessment Tool were used to evaluate the quality of each study.

Children are considerably impacted by their mother's breast cancer. Nurses may help parents communicate with their children regarding the breast cancer diagnosis. Cancer treatment centers can facilitate communication within the family through educational programs or support groups that focus on the needs of the family. Age appropriate educational materials will help children to better understand their mother's illness and the feelings they have in relation to it.

### 3751

**INTRAVENOUS INFUSION AND SUBCUTANEOUS INJECTION OF AZACITIDINE IN PATIENTS WITH MYELODYSPLASTIC SYNDROMES WHO ARE ENROLLED IN AVIDA, A LONGITUDINAL PATIENT REGISTRY.** Michele Dsouza Britto, RN, MS, OCN®, CCRP, Kellogg Cancer Care Center-Northshore University Health System, Evanston, IL; David L. Grinblatt, MD, North Shore University Health System, Evanston, IL; Mohit Narang, MD, Alliance Hematology Oncology, Westminster, MD; James M. Malone, III MD, Oncology-Hematology Medical Associates of the Central Coast, San Luis Obispo, CA; David A. Sweet, MD, Celgene Corporation, Summit, NJ; Tim S. Dunne, Celgene Corporation, Summit, NJ; Kristen A. Sullivan, MBA, CCRA, Celgene Corporation, Overland Park, KS

Azacitidine, initially approved as a subcutaneous (SC) injection that allowed convenient outpatient treatment, is now also approved as an intravenous (IV) infusion for patients who have injection site reactions or poor peripheral blood flow.

Compare treatment patterns, transfusion independence, and safety of azacitidine administered via IV infusion or SC injection in patients enrolled in AVIDA.

AVIDA is a multicenter patient registry designed to prospectively collect data from community-based hematology clinics on the natural history and management of patients with hematologic disorders who are receiving azacitidine.

Treatment patterns, transfusion independence (defined as no transfusions for at least 56 days during AVIDA) in patients with historical (6 months prior to AVIDA) transfusion requirements and at least 56 days treatment duration, and adverse events (AEs) were recorded.

As of October 8, 2008, 237 patients (164 males, 73 females) have been enrolled; 923 cycles (median, 3; range, 1-16) have been administered. The most common dose and schedule was 75 mg/m<sup>2</sup> (84%) at 5 days on treatment (51%). IV infusion was the most frequent (>50%) administration route for 126 (53%) patients (IV patients) and SC injection was the most frequent administration route for 110 (46%) patients (SC patients). One patient was not included in the analysis. Baseline demographics, disease characteristics, dose, and schedule were similar between the two administration groups. Twenty-seven of 40 (68%) IV patients achieved RBC transfusion independence; 25/27 (93%) first achieved RBC transfusion independence during the first 2 cycles. Fifteen of 38 (40%) SC patients have achieved RBC transfusion independence; 11/15 (73%) first achieved RBC transfusion independence during the first 2 cycles. IV patients experienced fewer injection site AEs than SC patients (3 vs 17). Incidences of other AEs were similar between both groups (IV vs SC) with the exception of thrombocytopenia (12% vs 16%) and fatigue (8% vs 16%).

Conclusion: In the community setting, both IV and SC administration routes provided clinically meaningful RBC and platelet transfusion independence. The IV patients experienced fewer administration site reactions.

**Funding Source:** Celgene Corporation

### 3752

**FACTORS INFLUENCING CANCER SURVIVORS INFORMATION SEEKING BEHAVIORS: A REVIEW OF RESOURCE UTILIZATION AMONG ONCOLOGY PATIENTS.** Vicki Tolbert, RN, BSN, OCN®, CCRP, Thomas Johns Cancer Hospital at CJW Medical Center, Richmond, VA

Studies indicate that most cancer patients want to be informed. In this age of information technology, understanding the phenomenon of information seeking among cancer survivors is more important than ever to ensure that patients are educated on the management of their disease in a manner in which they prefer and are exposed to credible resources.

The purpose of this project was to determine what factors influence cancer information seeking behavior, what types of information were important and what resources survivors found to be most helpful.

During a two week period, patients with a cancer diagnosis evaluated in an outpatient oncology office were given the opportunity to participate in this study. A questionnaire consisting of Likert-type questions was developed that addressed cancer information seeking behavior, resources and useful types of information. The questionnaire was nurse developed and completed by the survivor without family input.

Sixty patients were enrolled on the study which represented an 87% response rate. Equal importance was given to learning about their cancer diagnosis, their treatment and side effects. Although 82% reported receiving information from their healthcare professionals, two-thirds (70%) of all participants reported seeking more knowledge about their cancer. Significant predictors included age less than sixty, female gender and patients within their first year of diagnosis. Healthcare professionals were ranked first as the preferred resource. Most striking was patients did not cite the internet as one of their top sources. Some reported the internet to be confusing and too vast to explore. Survivors preferred books/ medical journals second and media generated health information third. Family and friends were recognized for information as well as support.

The study reaffirmed that patients continue to believe that their healthcare practitioners are their best source for health information. Although the internet is assumed to be the top choice for medical information, not all populations are using this tool as evidenced by the study. It is important to determine information seeking behaviors of patients including methods of learning and resources they prefer to ensure patients receive optimal learning and referral to credible resources.

### 3755

**DEVELOPMENT AND IMPLEMENTATION OF A UNIT-BASED PROGRAM FOR THE MANAGEMENT OF THE ESOPHAGECTOMY PATIENT WITH CANCER.** Janet Taubert, RN, MSN, PCCN, M.D. Anderson Cancer Center, Houston, TX; Marilou Sequitin, RN, BSN, University of Texas M.D. Anderson Cancer Center, Houston, TX; Lousia Kan, RN, BSN, OCN®, PCCN, University of Texas M.D. Anderson Cancer Center, Houston, TX; Marites Tanglao, RN, BSN, University of Texas M.D. Anderson Cancer Center, Houston, TX

Patients with esophageal cancer who undergo an Esophageal Resection are a key patient population on our Progressive Care Cardiovascular Surgical (PCCS) Unit. In 2008, the National Cancer Institute identified 16,470 new cases of esophageal cancer and 14,280 deaths. Esophageal Resection, a modality for the treatment of esophageal cancer, carries a significant risk of mortality and morbidity, along with multiple potential complications. Through the care, knowledge, and management of these patients by the oncology nurse using evidence-based practice, the risks associated with this surgery can be managed, minimized, and sometimes prevented.

The goal of our program was to provide nursing education, development of unit-based guidelines, and the delivery of consistent, cost-effective, and comprehensive nursing care utilizing an evidence-based approach for the management of the post-esophagectomy patient.

Our first step was to assess our nurses' baseline knowledge using a written examination, focusing on areas of anatomy, assessment skills, interventions, and critical thinking with esophagectomy care. Our group examined the evidence and developed a Power Point Presentation, "Management of The Esophagectomy Patient," which was electronically sent to all of the nurses on our PCCS Unit. To evaluate the nurses' knowledge following these interventions, an Esophagectomy Jeopardy Game was developed in which all nurses participated. Our surgeons also played a role in re-education through in-services on various surgical approaches to esophageal resection and potential complications. A post-test to re-assess nurses' knowledge will be performed.

Our pre-assessment scores of nursing knowledge, consisting of both years of experience with the esophagectomy patient and categories of clinical practice, demonstrated areas for improvement. In examining where nurses obtained their knowledge on esophagectomy care, 76% of the 46 nurses evaluated, identified receiving their information during orientation. The categories of both Interventions and Critical Thinking presented areas to improve upon for both nurses employed less than 1 year and nurses employed 2-4 years. A post-test will be performed.

Through re-education, evidence-based guideline development, and collaboration with the multidisciplinary team, we are providing a consistent and effective practice for esophagectomy patients, focusing on prevention, early identification, and implementation of interventions for complications.

### 3757

**A SYSTEMATIC REVIEW OF LITERATURE RELATED TO MEASUREMENT OF ADHERENCE TO ORAL CANCER THERAPY.** Karen Wickersham, RN, University of Pittsburgh, Pittsburgh, PA

Traditionally, cancer has been treated with surgery, radiation therapy, and/or chemotherapy. However, the advent of the use of oral targeted cancer therapies has shifted the responsibility



for monitoring and managing adherence to therapy from health care providers to patients. Adherence to oral cancer therapies has not been well-documented. Furthermore, adherence knowledge for patients with cancer is largely based on studies of tamoxifen, which have methodologic concerns including concerns about approaches to measurement of adherence to oral cancer therapy.

The purpose of this paper is to critically examine the literature related to measurement of adherence to oral targeted therapy with EGFR inhibitors in patients with NSCLC (ONS research priority 5.1 treatment adherence).

A systematic review of the literature was performed during Spring 2008. Studies were identified through database searches, including Medline, CINAHL, and the Cochrane Database of Systematic Reviews. Key search terms included: interventions, self-report, drug monitoring, medication adherence, medication compliance, patient compliance, carcinoma-non-small cell lung, receptor-epidermal growth factor, and antineoplastic agents.

Fifty-four articles were initially retrieved. Findings were further limited to studies specifically comparing the use of electronic adherence monitoring to at least self-report, producing six quantitative studies examining the use of self-report and electronic monitoring of medication adherence. Only two studies examining medication adherence in patients with cancer receiving oral anticancer therapy were found. All studies specifically measured medication adherence using electronic monitoring; five directly compared electronic monitoring with patient self-report. Four included evaluations or comparisons with other traditional adherence measurements such as pill counts, plasma levels, or pharmacy record review. All studies included convenience samples; only one study included an element of randomization. In most cases, reviewed studies suggested self-report overestimated adherence, while electronic monitoring underestimated adherence. Based on criteria adapted from McMaster University, the quality of individual studies was assessed as Level V for 5 of the 6 studies; one was categorized as a Level 4. All were well-designed, non-experimental studies that provided clear support for the use of electronic adherence monitoring. Future studies of adherence to cancer therapies should include electronic adherence measurement.

### 3759

**INTRODUCTION TO CLINICAL ONCOLOGY NURSING FOR UNDERGRADUATE STUDENTS.** Jeanne Erickson, PhD, RN, AOCN®, University of Virginia School of Nursing, Charlottesville, VA; Gina DeGennaro, MSN, RN, AOCN®, CNL, University of Virginia School of Nursing, Charlottesville, VA; Lucy Goeke, BS, RN, University of Virginia School of Nursing, Charlottesville, VA; Jeryl Cohen, BSN, RN, University of Virginia Health System, Charlottesville, VA; Tanya Thomas, BSN, RN, University of Virginia Health System, Charlottesville, VA

Educators in baccalaureate nursing programs are responsible for introducing oncology nursing to future nurses. Since a dedicated course in oncology nursing is not the reality at most nursing schools, students usually learn cancer nursing concepts as part of a general medical-surgical nursing course with a clinical rotation component. Educators are challenged to promote a comprehensive introduction to clinical oncology nursing that enhances students' appreciation for the diversity within this specialty.

At the University of Virginia, undergraduate nurse educators and clinicians on the inpatient oncology unit collaborated to determine the ideal mix of patient care assignments to provide undergraduate nursing students with a comprehensive introduction to clinical oncology nursing, while promoting the new AACN Essentials for Baccalaureate Education and the Oncology Nursing Standards of Care.

Educators use this rubric to structure patient assignments so that students gain experience with patients at different developmental stages (young adult, geriatric) and at different stages in the disease trajectory (diagnosis, active treatment, and end-of-life). Assignments are also planned so that students participate

in the care of patients receiving different modalities of therapy (surgery, radiation, chemotherapy, and biotherapy). Each student also receives a set of ONS PEP cards to gain experience with evidence-based symptom management for common problems, including myelosuppression, pain, mucositis, fatigue, and anxiety. Students are provided opportunities to practice communication skills with patients on difficult topics. They are also encouraged to discuss and reflect on professional issues frequently encountered in oncology nursing, such as moral distress, end-of-life decisions, and self-care strategies.

Throughout the rotation, students monitor their own progress gaining diverse clinical experiences and reflect on their own responses to identify areas that are particularly challenging or rewarding. At the end of the semester, instructors and students evaluate how this diversity of experiences enhanced the students' introduction to oncology nursing.

By structuring a comprehensive introduction to clinical oncology nursing, educators can emphasize the diversity of roles that are possible in an oncology nursing career and enhance students' knowledge of their clinical strengths as well as focus on future learning. More strategies are needed to enhance oncology nursing in undergraduate nursing education.

### 3760

**NURSES USE MOTIVATIONAL INTERVIEWING TO IMPROVE COLORECTAL CANCER SCREENING RATES.** Peggy Corey, RN, BSN, OCN®, Gundersen Lutheran Health System, La Crosse, WI; Julie Gorski, BSN, RN, Gundersen Lutheran Health System, La Crosse, WI; Ana Schaper, PhD, RN, Gundersen Lutheran Health System, La Crosse, WI; Shirley Newberry, PhD, RN, Gundersen Lutheran Health System, La Crosse, WI

In 2008, the Oncology Nursing Society (ONS) Research Priorities Survey determined cancer screening and early detection as number twelve in their list of 20 evidenced-based priorities. Colorectal cancer is the second leading cause of cancer mortality and is largely a preventable disease. The removal of pre-cancerous polyps through the use of colonoscopy can reduce the incidence of colorectal cancer by 75-90%, yet colorectal cancer (CRC) screening rates, particularly colonoscopy, remain low nationally. Motivational interviewing (MI), incorporating the Transtheoretical Model (TTM) of behavior change is a patient centered directive method of communication for enhancing intrinsic motivation to change by exploring and resolving ambivalence, anger and fear. Research has demonstrated that MI can increase mammography screening and smoking cessation rates.

To document the process and outcomes of a telephone intervention utilizing MI communication strategies on colonoscopy rates.

Two nurses trained in MI conducted telephone interviews using MI with patients who had been referred for colonoscopy but failed to schedule within six months. Data were collected on: patient's TTM stage of change, overall health, scheduling issues, MI skills used, and outcomes.

Of the 163 patients telephoned, 57% were female, 52% rated their health as very good/excellent, and 53% presented in either pre-contemplation or contemplation stage of change. Reasons for not scheduling: too busy/forgot (27%), not ready (19%), other health problems (19%), preparation and/or pain concerns (16%), and no insurance (9%). Interventions included: education (n=51) and/or MI strategies (n=42). Outcomes included: 114 (69%) patients scheduled colonoscopy, 85 (75%) tests completed, 45 (53%) patients with polyps, 29 (64%) patients with pre-cancerous polyps, and one patient presented with a carcinoid polyp. Patients rating their health as fair or poor were the least likely to schedule.

Colonoscopy screening rates improved following a telephone interview using MI in addition to education. Skills in MI allow oncology nurses to individualize care plans and to assist patients to progress from pre contemplation to action. Nurses, who utilize MI skills, can play a vital role in reducing CRC and in promoting CRC screening.

### GROUP VISITS FOR SURVIVOR CARE: AN INNOVATIVE MULTI-DISCIPLINARY APPROACH. Kathy Trotter, RN, CNM, FNP, Duke University School of Nursing, Durham, NC

Nurses can be important leaders in survivorship care. In this unique long term follow-up clinic, the Nurse Practitioner is both the lead facilitator for the small group session, as well as primary clinician in this multi-disciplinary team of APN, physical therapist, nutritionist and social worker. Both the team approach in this innovative survivor care clinic as well as enhanced patient empowerment are key points to this model.

Practically speaking, the cancer center has many patients to care for with only so much space and clinical appointments available. To relieve the clinic schedule which was overpopulating the waiting room, help frustrated clinicians trying to make room for new cancer patients, and improve services to survivors with their unique needs, the new breast cancer survivor clinic was established at Duke Medicine in February, 2008.

In this clinic, six women who are three years or more post diagnosis, arrive at the same time, and do not wait in the waiting room, but come into the group space area to begin care. The room is set up in a circle of chairs, and two vital signs stations. Women take their own vital signs and mark them on their long term Summary Care Plan, and by the end of the visit, write Personal Goals for the year.

The 50-60 minute group session, adapted from the Centering Healthcare Institute model, is facilitated by the NP. The session includes all patients as well as their significant others, the nutritionist, the social worker and physical therapist. There is structure with the use of a Self Assessment Sheet, with versions available for the patient as well as their accompanying family member or friend.

148 patients attended this clinic during 2008. Data showed 96% satisfaction with the organization of their care in this way, with 94% responding that they learned some new things during the session, and 100% revealed that the long term care plan will be at least somewhat helpful.

This model of survivor care demonstrates strong patient satisfaction with the group care model and the services offered. The cancer center is supported as this model creates openings for newly diagnosed patients. Further research is suggested on the model's effect on patient and system outcomes.

### 3762

#### AN INTERVENTION TO DECREASE CENTRAL VENOUS ACCESS DEVICE-RELATED BLOODSTREAM INFECTIONS. Jennifer Martens, RN, OCN®, BSN, William Beaumont Hospital, Royal Oak, MI; Cheryl Bartley, RN, BSN, William Beaumont Hospital, Royal Oak, MI; Jane Caplinger, RN, BSN, MSA, OCN®, William Beaumont Hospital, Royal Oak, MI; Carol Kowalewski, RN, BSN, William Beaumont Hospital, Royal Oak, MI; Mary Royse, RN, BSN, MSN, William Beaumont Hospital, Royal Oak, MI

The first quarter of 2008 reflected an increase in bloodstream infections on the inpatient Oncology unit. Most patients admitted to the unit have a central venous access device which puts patients at risk for developing a bloodstream infection. Nursing interventions help to reduce patients' risk of acquiring a bloodstream infection from a central venous access device. Bloodstream infections can lead to an increase in patient morbidity and mortality rates.

The purpose of the project was to determine potential causes for the increase in the bloodstream infection rate, and implement nursing practice strategies to reduce catheter related bloodstream infections.

A literature review was conducted and hospital policy was reviewed. A baseline audit was completed to look at the integrity of the dressing and nursing practice related to the care of central venous access devices. As a result of the audit, a three month trial of a new central line dressing was instituted and staff was educated on nursing practice improvement opportunities.

Formal staff education was conducted which included a post-test to evaluate nursing competency. The audit was repeated to determine if the adherence of the dressing improved and if nursing practice had been impacted. The bloodstream infection rate was reevaluated. Oncology nurses can help reduce the bloodstream infection rate through closer monitoring of central venous access device sites and improvements in nursing practice.

Implications for oncology nursing practice include a heightened awareness of assessment and nursing care of central venous access devices. Best practice standards were shared throughout the corporation and may be utilized by other health care institutions.

### 3764

#### ACHIEVING EXCELLENCE: FORGING PRODUCTIVE PARTNERSHIPS ACROSS ACADEMIA AND PRACTICE. Virginia LeBaron, ACNP-BC, ACHPN, AOCN®, University of Arizona College of Nursing, Tucson, AZ; Susan Bohnenkamp, APRN-BC, CNS, CCM, University Medical Center, Tucson, AZ

Oncology nurses face increasing challenges to provide quality patient care. Technological advances, complex treatment regimens, staffing shortages, sicker patients, and regulatory requirements all necessitate providing oncology nurses with optimal clinical support. Concurrently, nursing schools struggle with faculty shortages, admission caps, securing appropriate clinical placements, and encouraging nursing students to enter the specialty of oncology. One mechanism to support both current, and future, oncology nurses is to utilize the specialized skills of advanced practice nurses with oncology expertise.

The purpose was to describe the unique and productive partnership forged between the authors--an oncology nurse practitioner working at a college of nursing, and an oncology clinical nurse specialist working at the university medical center. Capitalizing on each individual's skill set, educational background, and institutional affiliation has enabled significant benefits for cancer patients, oncology nurses, the university medical center, and the college of nursing.

In August, 2006, the authors met through happenstance. Their professional partnership flourished through mutually shared goals, similar clinical backgrounds and interests, and a commitment towards improving quality cancer care. Working together, they bridged connections between academia and clinical practice, each drawing upon their networks of support, individual mentors, and available resources. Subsequently, they used a strategic "divide and conquer" approach, embarking on numerous and successful clinical practice and academic projects that would have been impossible to complete alone.

While no formal evaluation of this professional partnership has been undertaken to date, it is evident through the variety, quality, and quantity of joint projects that this is a highly successful and productive model to improve cancer care. Indirect methods of evaluation have included the pilot project of a palliative care program, published manuscripts, conference presentations, quality improvement projects, large scale oncology staff educational initiatives, grant submissions, student mentoring, and support to college of nursing faculty.

We propose formalizing professional partnerships between academic faculty and clinical practitioners to improve oncology care. Combining talents and expertise of advanced practice nurses provides a unique opportunity to maximize the positive outcomes for oncology nurses, cancer patients, and college of nursing students and faculty.

### 3766

#### MULTIPURPOSE, SHORT VISIT AREA INCREASES PATIENT SATISFACTION, EFFICIENCY AND PRODUCTIVITY IN OUTPATIENT MEDICAL ONCOLOGY. Frances Proto, RN,

Yale-New Haven Hospital, New Haven, CT; Sandra Watcke, MSN, RN, CRNI, Yale-New Haven Hospital, New Haven, CT

Nurses and patients were frustrated by inefficient patient flow in our outpatient treatment area. Census data revealed a high volume of short visit treatments added to the schedule daily, resulting in schedule disruption and increased wait time. The majority required central access care. Patients receiving non chemotherapy support drugs were unnecessarily occupying a chemotherapy chair, reducing chemotherapy efficiency. A decision was made to staff and appropriately schedule a short visit treatment area to improve flow.

The purpose was to describe the impact of a short visit treatment area on patient satisfaction, efficiency and productivity in an outpatient treatment center.

Visit length was established as a 15 minute visit in an area staffed by one nurse and one patient care associate, caring for two patients every 15 minutes. Initially, appropriate populations were identified as those requiring phlebotomy or supportive medications such as hormone injections, colony stimulating agents, anticoagulants, antiemetics, antidiarrheals, and vaccines. Access and maintenance of central lines was provided. Populations expanded to include pleuritic and ascitic fluid drainage via Denver® catheter, wound site evaluations and dressings. Treatment support functions added were pre- chemotherapy hydration and antiemetics, blood transfusion set up, and analgesics. Clinical trials are supported in this area with labs, EKG, and pharmacokinetics. Acute care triage with fluid resuscitation and admission can be provided.

This room has been very effective in reducing overall wait times and increasing patient satisfaction as evidenced by positive statements on Press Ganey® survey. Continuity of care is appreciated with one nurse in charge of this area. Nurses are more satisfied with the increased efficiency of patient schedules, chemotherapy and transfusion set up, and no short treatment interruptions. Short visit treatment volumes have doubled from 25-50 patients/day. Enhanced productivity is evidenced by the outpatient treatment center absorbing a 20% increase in volume without additional treatment spaces.

Flexibility is an essential asset of this area to efficiently meet a wide variety of treatment needs. Nurses require strong skills in assessment, procedures, patient education and must thrive in a rapid paced environment. The successful multipurpose treatment area is included in our new cancer hospital design with expanded space and staffing.

### 3769

**COMPETENCY TESTING OF THE ONCOLOGY NURSING SOCIETY "PUTTING EVIDENCE INTO PRACTICE" RESOURCE INFORMATION.** Kathleen Browne, RN, OCN®, CC, North Florida Regional Medical Center, Gainesville, FL

During the 2008 Oncology Nursing Society Congress, four volumes of "Putting Evidence Into Practice" PEP cards were introduced and distributed. These publications provided an opportunity to implement evidence based practice guidelines as the standard of oncology nursing practice in a 325 bed community hospital. After obtaining permission from ONS, an oncology nurse competency was developed from the cards, utilizing the hospital-based computer assisted learning system.

The goal was to provide computerized education that staff could access at work or at home. If this proved effective, then the information would be made available throughout this multi-hospital company system. The initial learning plan focused on the ONS PEP card, Prevention of Infection, Volume I, in order to improve the CMS Core Measure performance in this area.

The ONS PEP cards, Volume I, were scanned into the computer educational program. A ten question competency for Volume I was submitted for online testing. Staff members read the guidelines and took the test to earn the competency and to obtain 1 CEU per volume. The questions were all multiple choice or yes/no format. The PEP cards and tests were organized into a competency program, which was integrated throughout the entire multi-hospital healthcare system.

With Volume I completed, administrative staff accomplished the reading and testing process, finding the guidelines an excellent resource and the testing process easy to use. The nursing staff is now prepared to implement these clinical/evidence-based guidelines into their standard of practice, in agreement with the hospital Core Measures.

Integrating information into educational programs will improve staff knowledge and standard of care for our patients. At this facility, these 4 Volumes of ONS PEP cards will become annual competencies for the oncology staff. The multi-hospital system, using this online educational opportunity, serves 185,000 employees who will potentially benefit from these competencies.

### 3770

**OUTCOMES OF AN INTENTIONAL AFTERNOON QUIET HOUR FOR PATIENTS AND NURSES.** Mary Lane, MN, OCN®, Providence St. Peter Hospital, Olympia, WA; Ruth Rea, PhD, RN, University of Washington, Tacoma, WA

Hospital environmental noise has been implicated as an adverse factor that contributes to patients' sleep deprivation and inability to rest. The association between noise and sleep is important to nursing as the lack of adequate amounts of sleep has corresponded with poor patient outcomes. Patients may experience sleep deprivation which increases immunosuppression, lower pain tolerance, increase anxiety, and fatigue. Noise levels impact staff by contributing to increase stress, impaired communication, and have been associated with increase medical errors and staff burnout. Oncology patients are particularly vulnerable to sleep deprivation as they generally have longer length of stays and would benefit from interventions to promote rest.

The purpose of this study was to determine if an intentional quiet hour would be helpful to both patients and nursing staff on a hospital oncology unit. The objectives of this study align with the ONS research priorities focusing on nursing sensitive patient outcomes as well as research that support symptom management.

The study used a descriptive design to collect perceptions about the helpfulness of an intentional quiet hour from patients and staff RNs.

The investigator developed the tools for data collection which consisted of two 10-item questionnaires specific for patients and nurses. Data analysis was performed using SPSS version 14. Wilcoxon Signed Ranks-Tests were performed to test for differences

Seventeen inpatients participated with 52.9% reporting the intervention as 'helpful to very helpful.' The patients reported a significant difference ( $p < .005$ ) in the noise level during the quiet hour and average unit noise. Nursing outcomes were pertinent to work environment and time management issues with 60% of the nurses ( $n=15$ ) reporting the implementation of the quiet hour assisted with completion of work assignments ( $p < .004$ ). Thirteen ( $p < .001$ ) reported experiencing an increase in the likelihood of an uninterrupted lunch break; as well as an overall improvement in the unit noise level during this hour. It was also noted that after implementation of the quiet hour, patient satisfaction scores relating to noise improved significantly. This research demonstrated the helpfulness of a cost-effective nursing intervention which benefits patients and staff by improving quality, safety, and satisfaction.

### 3773

**PROMOTING PATIENT ADHERENCE TO IRON CHELATION THERAPY: FINDINGS FROM EPASS™ (EXJADE PATIENT ASSISTANCE AND SUPPORT SERVICES).** Joan Latsko, MSN, CRNP, OCN®, AOCNP®, Western Pennsylvania Hospital, Pittsburgh, PA; Anne Martens, RN, BioScript, Morris Plains, NJ

Iron chelation therapy (ICT) is essential for treating chronic iron overload due to blood transfusions. Conventional ICT is burdensome, potentially leading to poor compliance. Deferasirox (Exjade®) is an orally administered iron chelator that is less burdensome for patients, consequently improving compliance. Exjade is distributed through a group of specialty pharmacies that



are a part of EPASS™ (EXJADE Patient Assistance and Support Services). In 2008, a nurse-support component was implemented that is delivered by nurses in specialty pharmacies, providing patients with high levels of nurse interaction.

The purpose was to determine whether nurse support can improve patient adherence (percentage of patients receiving drug) to deferasirox.

Through regular, strategically timed phone conversations, the nursing staff educated patients on iron overload and the importance of adherence to deferasirox. The service was offered to all patients starting therapy after 2008. Patients were able to contact the nursing staff as needed. Prescription data from January 2006 to October 2008 were used to assess adherence.

Patient adherence was highest among patients who started deferasirox just after FDA approval (n=4254, January–June 2006): 3-month, 6-month and 12-month adherence was 66%, 54% and 44%, respectively. With subsequent patient starts, adherence declined. Patients who started deferasirox in the second half of 2007 (n=1519) had 3-month, 6-month and 12-month adherence rates that were reduced by 7% (59% vs 66%), 12% (42% vs 54%) and 13% (31% vs 44%) compared to patients who started in the first half of 2006. Following the implementation of the nurse support program in 2008, 3-month and 6-month adherence rates for those patients starting deferasirox in January–June 2008 (n=1940) were higher compared with those patients starting treatment in July–December 2007 (3-month rate: 62% vs 59%; 6-month rate: 46% vs 42%).

These results show that adherence rates for deferasirox were initially high due to patients switching from the more cumbersome treatment option. However adherence declined between 2006 and 2007 perhaps due to patients having no prior experience of ICT and being less likely to be compliant. The nurse support program increased adherence, confirming the important influence of nurses on patient outcome.

### 3774

**CREATING AN ORIENTATION PROGRAM FOR A PHASE 1 CLINICAL TRIALS UNIT AT A COMPREHENSIVE CANCER CENTER.** Elizabeth Owens, RN, MS, OCN®, Roswell Park Cancer Institute, Buffalo, NY; Laurie Musial, RN, CCRP, Roswell Park Cancer Institute, Buffalo, NY; Carol Sherer, RN, BSN, CCRC, Roswell Park Cancer Institute, Buffalo, NY

A core component of our mission is to conduct clinical research with the goal of ultimately improving patient outcomes. Phase 1 trials are particularly challenging as they are designed to evaluate the maximum tolerated dose, dosing schedule, and toxicity profile of new treatments on humans. Because of the significance of Phase 1 trials to our mission a new unit was built to centralize and grow Phase 1 capacity. Nursing staff will provide patient care on this unit to patients enrolled in Phase 1 trials and will be collecting the data used to evaluate the trial. The Registered Nurses role is very complex and requires developing and maintaining unique competencies and skills.

The purpose of our program was to develop an orientation for registered nurses to prepare them for the role of Clinical Research Nurses. An orientation pathway was designed to accommodate experienced oncology nurses from within our organization as well as nurses hired from outside that may have little exposure to oncology or clinical research. The Clinical Research Nurse is required to have a thorough understanding of the protocols being implemented, the data collection and monitoring requirements as well as provide direct care to the patient enrolled in the trials.

Utilizing the ONS Manual for Clinical Trials Nursing a curriculum was developed. Existing staff choosing to transfer to the new unit require a different level of orientation than those hired from the outside. A learning needs assessment survey was developed and distributed for the purpose of assessing and identifying staff needs for education as well as developing ongoing educational programs.

Participants were asked to evaluate their satisfaction with the orientation program and make recommendations for ongoing changes. The Nurse Manager evaluates attainment of required competencies.

This presentation will provide information on the process involved in planning the development of the unit, the orientation curriculum, recruitment of qualified staff and the implementation and evaluation by the staff and manager. Information presented can be useful for other facilities considering a similar program development.

### 3775

**BLOOD CULTURE CONTAMINATION: RESULTS OF A PERFORMANCE IMPROVEMENT TEAM.** Patricia Geddie, RN, MS, AOCNS®, Orlando Regional Medical Center, Orlando, FL

Oncology patients are vulnerable for infection related to immunosuppression from chemotherapy. Blood cultures (BC) are the most important diagnostic tool for diagnosing an infectious etiology, obtain pathogens for identification, and optimization of antimicrobial therapy. The College of American Pathologists (CAP) strongly recommend that BC contamination rates be less than 2.5%. Patients often present to the Emergency Department (ED) with fever resulting in a sepsis work-up. With numerous and competing priorities on nursing time and workload, the accuracy of BC collection techniques are compromised.

The purpose of this project was to improve BC contamination rates, to improve the collection process for BCs using the latest evidence, and improve knowledge level of nurses on the key elements leading to BC contamination.

The laboratory and nursing department developed and implemented a plan to evaluate current processes and identify failure modes and gaps to improve outcomes. A 3 month pilot was conducted in the ED with a dedicated phlebotomist. The adult oncology units and trauma unit were also pilot units. Intensive education with emphasis on rationale and patient outcomes were provided to the nursing staff. Contamination rates and collecting nurse are matched and tracked via the hospital's electronic record for follow-up and counseling. The policy and procedure, orientation, computer assisted instruction and annual clinical review exam was revised and distributed.

The use of a dedicated phlebotomist in the ED substantially reduced contamination rate, impacting the overall ED and organization rate. As a result, the laboratory has planned to hire full time phlebotomists for all lab draws in the ED. The inpatient units will continue to be tracked via performance improvement team and posted electronically for manager access.

Collaboration is necessary to ensure accurate diagnosis of infections resulting in appropriate treatment and overall satisfactory patient outcomes. Education alone does not change practice. An emphasis of the rationale behind the procedure, consequences of contamination and accountability are necessary to change practice and the culture of safety. Provision of a well-trained and dedicated professionals to perform BCs does improve the degree of BC contamination.

### 3776

**USING ELECTRONIC DOCUMENTATION TO ENHANCE THE TRIAGE PROCESS.** Catherine Licita, RN, MSN, Memorial Sloan-Kettering Cancer Center, New York, NY; Janine Kennedy, RN, MA, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY

The Urgent Care Center (UCC) of a comprehensive cancer center delivers emergency medical care to pediatric and adult oncology patients. The UCC averages 20,000 patient visits annually, with 47% of the population being admitted to the hospital. In order to develop the best plan of care for patients, the triage process needs to establish the foundation for which all other nursing and medical decisions are made. Due to the high acuity and volume, staff struggled with the lack of standardization of the triage process and the legibility of the triage note.

An electronic triage documentation form was developed to standardize the triage elements that needed to be obtained. The electronic triage note increased patient safety by eliminating the illegibility factor.

A work group was initiated that consisted of UCC clinical leadership, information system analysts and UCC staff. A review of triage standards was completed looking at other medical institution's forms and national guidelines. We decided on certain patient data elements that met standards but also facilitated patient flow. Vital signs including pain, chief complaint, cancer diagnosis and medical history were elements previously utilized.

Advance directives status, triage interventions including CVC access and anticoagulation therapy usage were added. These elements improve communication amongst caregivers and provide a comprehensive picture of the patient's needs. A unit wide educational initiative was launched which educated all on how to navigate the electronic triage note, work flow revisions and patient interview and assessment process. The Go-Live initiative was supported by clinical leadership, super-users, and information system analysts.

This process has enabled us to establish credible measurement methods such as comprehensiveness of data elements within the triage note, timeliness of data entry, and total patient triage time. By having an electronic tool, there is the ability to collect benchmarking data to establish relationships between chief complaint and cancer diagnosis.

As the acuity and volume of oncology patients increases within the healthcare system, there will be an increased need for efficient, complete and legible documentation. The use of technology to assist in improving patient care delivery and flow has been a positive experience in the UCC.

### 3778

**BREAST CANCER AWARENESS: A COMMUNITY EDUCATION INITIATIVE.** Kathleen Peranski, RN, MSN, OCN®, NE, BC, United Health Services, Jonhson City, NY

Breast cancer is the second most common type of cancer in women. Women in the United States get breast cancer more than any other type of cancer except skin cancer. Knowledge of risk factors, screenings and symptoms could help with early detection and early treatment. This in turn could save lives.

The purpose is to provide education to several local communities using different modalities in order to increase the awareness of breast cancer.

Funding for the project was obtained through a special projects grant offered by the Oncology Nursing Society. A review of the literature was done to obtain the most recent statistics and screening information. We chose 3 different ways to get the word out to the community. We used billboards that were in high traffic areas, radio spots and information placemats that were displayed in local restaurants.

The project was well received in the community. We were awarded the NYSNA District 5 "Public Relations Award" for this project. The chapter was recognized at the 2008 Nurses' Day Breakfast in our community. A plaque was given to the chapter.

Disease prevention and promotion starts with the individual. Community education is one way to bring awareness to many people, especially those that may not see a physician on a regular basis.

Education has always been a major focus of the oncology nurse with the goal of empowering the individual to be an active participant in health care.

### 3779

**EDUCATING BLOOD AND MARROW TRANSPLANT NURSES ON THE NATIONAL MARROW DONOR PROGRAM'S MATERIALS AND RESOURCES.** Elizabeth Murphy, ED, D, RN, National Marrow Donor Program, Minneapolis, MN; Ellen Denzen, BSc, National Marrow Donor Program, Minneapolis,

lil, MN; Nancy Omondi, MBA, MS, National Marrow Donor Program, Minneapolis, MN

Informing blood and marrow transplant (BMT) nurses and other medical professionals about available transplant-related materials and services ultimately improves the support provided to BMT patients, caregivers and their families. The National Marrow Donor Program's (NMDP) Office of Patient Advocacy provides educational resources that assist providers with helping patients make informed decisions regarding transplant. The NMDP developed an interactive custom profile activity for the 2008 Oncology Nursing Society (ONS) Annual Congress which offered booth visitors an opportunity to learn about available NMDP resources and services.

The goal was to educate BMT nurses on transplant-related educational materials and services for health care providers and patients. Secondly, the goal was to increase general awareness of the NMDP.

An assessment tool comprised of six questions was administered to nurses and other medical professionals who visited the NMDP booth at the 2008 ONS Annual Congress. The assessment tool employed a cross-sectional survey design to evaluate the medical professionals':

- Affiliation with NMDP Network
- Role as transplant process educator
- Access to post-transplant care guidelines
- Interest in supporting the NMDP mission/engagement with the NMDP.

Corresponding transplant educational materials were offered to individuals based on their responses to each question.

A total of 183 nurses and other medical professionals participated in the educational activity at the NMDP booth. Of these, 32% were affiliated with the NMDP network; 90% were transplant process educators; 44% had access to post-transplant care guidelines; and 84% were interested in supporting the NMDP mission. Additionally, 61% of the transplant-related educational materials were distributed and 55 materials orders were placed by activity participants.

The BMT nurses and medical professionals attending the 2008 ONS Congress benefited from the NMDP educational activity. Access to educational materials was provided, resulting in increased knowledge of pre-transplant and post-transplant guidelines, as well as resources available on the latest research in transplantation. More than 80% of participants were interested in supporting the NMDP mission. Each of them was given information on how to become a donor, volunteer and/or financial contributor. The NMDP continues to advance its life-saving mission through science, service and support.

### 3784

**MENTORING PROGRAM TO FACILITATE EVIDENCE-BASED DISSEMINATION.** Elizabeth Ness, RN, MS, Center for Cancer Research, National Cancer Institute, NIH, Bethesda, MD; Kathleen Castro, MS, RN, AOCN®, Nursing and Patient Care Services, Clinical Research Center, NIH, Bethesda, MD; Susan Booher, MS, RN, Dermatology Branch, National Cancer Institute, NIH, Bethesda, MD; Kathleen Calzone, MSN, RN, APNG, FAAN, Genetics Branch, National Cancer Institute, NIH, Bethesda, MD

The Scope of oncology nursing practice involves leadership that includes sharing research and projects that contribute to the evidence base of oncology nursing practice. A collaborative clinical and research nurse Professional Practice Work Group created a professional development matrix beginning with the research/project, followed by abstract development, presentation, and culminating with a peer reviewed publication. This abstract provides an overview of the program established to address the writing and presentation phases of the matrix.

The program provides a collaborative, centralized senior staff mentoring program to enhance oncology nurse professional de-

velopment by fostering skills in abstract writing, poster development and presentation at national nursing meetings.

The multi-phased intervention consists of support for abstract development followed by peer review critiques of accepted abstracts. Phase 1, Creativity, Abstract Preparation, Support and Snacks (CAPSS) involves an open house to facilitate optimal participation. CAPSS assigns experienced mentors to assist nurses in exploring research and projects that are novel, relevant and ready to disseminate. CAPSS participants are also provided with abstract writing resources. Phase 2, Practice, Peer review, Posters and Pastries (4P's) offers the opportunity for nurses with accepted abstracts to receive peer review and detailed critiques of posters and podium presentations.

Since the programs inception, 100% of abstracts have been accepted with 50% podium presentations, 50% posters and one peer-reviewed manuscript publication. Evaluations reveal that all strongly agreed or agreed that the program provided them with the ability to identify a potential topic to further develop into an abstract and describe the components of as well as steps involved in the process. Nurses reported that they enjoyed interactions with colleagues and valued the resources and mentoring provided. Presenters at the 4P's all reported the experience was invaluable to improve the quality of their poster or presentation.

This program represents a novel mechanism to facilitate dissemination of evidence to the nursing community in addition to promoting collegiality and individual professional development. This provides a model collaborative program to support evidence sharing, an essential component of oncology nursing practice. The programs next phase involves establishing a mechanism for developing abstracts into peer reviewed publications.

### 3785

**HELPING ONCOLOGY NURSES MEET THEIR PATIENTS' SPIRITUAL CARE NEEDS.** Norma Fenerty, RN, C, BSN, OCN®, Fox Chase Cancer Center, Philadelphia, PA; Katie Stewart, MSPH, Fox Chase Cancer Center, Cheltenham, PA

Spiritual care has become an essential component to holistic nursing care in oncology. A Spiritual Care Resource Nurse (SCRN) program was initiated at this NCI-designated institution in December 2006, after two years of preparation by the multi-disciplinary Spiritual Care Committee. A selected group of nurses were trained to help direct care nurses better meet holistic care needs of patients, consistent with Joint Commission standards addressing patients' spiritual needs.

The evidence indicates that individuals are interested in discussing spiritual issues with their healthcare providers and some patients experience greater religiosity and strengthening of their faith through their disease process. The SCR program was developed as a "resource" program, such that nurses act as a resource to their nurse colleagues and are familiar with the spiritual resources available to the patients (e.g., pastoral care, video-on-demand). Presence as a means of attending to the spiritual needs of patients has been emphasized.

A 10 question survey was sent to the RN staff (total 304), to evaluate nurses' knowledge of the SCR program; to assess nurses' comfort in completing the cultural/spiritual portion of the nursing admission history; and to evaluate nurses' knowledge of spiritual care resources available.

Eighty-one responses were received. Although almost 90% of these RNs had knowledge of the SCR program, many areas were identified for teaching opportunities to improve direct care nurses' interactions with their patients in the area of spiritual care (e.g., comfort in making referrals, awareness of resources available to patients in the institution).

As nursing staff are involved in direct care of the cancer patient, especially at pivotal moments in the area of their spirituality, it is important that the nurse be comfortable with these expressions as well as sensitive to the patient's individuality, preferences, and boundaries. The SCRNs will work to enhance the program

to further assist oncology nurses at this institution with meeting the spiritual care needs of their patients.

### 3786

**A CASE PRESENTATION OF FOURNIER'S GANGRENE IN ACUTE MYELOID LEUKEMIA.** Suzanne Carroll, RN, MS, AOCN®, Wake Forest University Baptist Medical Center, Comprehensive Cancer Center, Winston-Salem, NC; Linda Brown, RN, ADN, OCN®, Wake Forest University Baptist Medical Center, Comprehensive Cancer Center, Winston-Salem, NC; Joni Chilson, RN, BSN, OCN®, Wake Forest University Baptist Medical Center, Comprehensive Cancer Center, Winston-Salem, NC

In 2008 there were approximately 13,290 new cases of acute myeloid leukemia and about 8,820 deaths from the disease. Acute Myeloid Leukemia (AML) is treated with induction chemotherapy (to attain remission) followed by post remission therapy (to maintain remission). The main side effect of treatment is myelosuppression which requires hematological support and management of infectious complications. A rare but serious infectious complication that can occur in these patients is Fournier's Gangrene.

Fournier's Gangrene represents a necrotizing infection of the skin and subcutaneous soft tissue of the external genitalia and perineum. Predisposing risk factors for this infection include diabetes mellitus, alcoholism, malnutrition and immunosuppression. The purpose of this poster presentation is to describe the clinical manifestations of a case of Fournier's Gangrene in an acute leukemic patient. Oncology Nurses need to be aware of this rare and often fatal complication to provide the best treatment and supportive care to patients afflicted with this infection.

Presentation of Fournier's Gangrene is usually acute. A combination of aerobic and anaerobic microorganisms and fungi causes an infection that spreads quickly and causes necrosis of the skin, subcutaneous tissue and muscle. Organisms spread from the subcutaneous tissue along the superficial and deep fascial planes, facilitated by bacterial enzymes and toxins. The infection causes vascular occlusion, ischemia and tissue necrosis. Septicemia with systemic toxicity ensues.

Our patient had a history of prolonged neutropenia and a prior disseminated fungal infection when he developed a painful scrotal and perirectal rash. Within hours the erythematous rash transformed into hemorrhagic bullous lesions. Treatment of Fournier's Gangrene entails intravenous antibiotics and surgical debridement. Our patient was not a surgical candidate and he quickly developed septicemia. Supportive care and comfort measures were implemented and the patient expired within 24 hours of the onset of the first symptoms of this infection.

Fournier's Gangrene is a rare but lethal infectious complication that can occur in immunocompromised cancer patients. Oncology nurse need to be familiar with this infection to promptly recognize it and offer immediate treatment or the best supportive and comfort care alternatives when treatment is not possible.

### 3788

**ONCOLOGY NURSES CONNECT: AN INTERNATIONAL NURSING COLLABORATION.** Lisa Morrissey, MSN, RN, CPON®, Childrens Hospital Boston, Boston, MA; Colleen Nixon, BSN, RN, Childrens Hospital Boston, Boston, MA; Mwanga Mhoka, Ocean Road Cancer Institute, Dar es Salaam, Tanzania

Oncology nurses require specialized education and training to ensure the provision of safe, efficient and evidence based care. Ocean Road Cancer Institute (ORCI), a 130 bed cancer hospital in Dar es Salaam, is the only cancer treatment center in Tanzania, one of the poorest countries in the world. The nurses at ORCI provide cancer care, yet have limited opportunities for education and specialized training in oncology nursing. In August 2008, a team of five nurses from Dana Farber/Children's Hospital Cancer Care (DFCHCC) collaborated with nursing leadership at ORCI to



plan and provide a two day educational workshop for the nurses at ORCI.

To offer outreach to African oncology nurses through the development of a collaborative relationship between DFCHCC and ORCI, providing the opportunity for information sharing and mutual learning for oncology nurses.

A two day oncology educational workshop was conducted at ORCI in August 2008. Thirty nurses from ORCI and two from Rwinkwavu Hospital in Kigali, Rwanda attended the workshop. The conference was organized by five nurses from DF/CHCC and the nurse manager at ORCI. Topics presented at the workshop included an overview of childhood cancer, chemotherapy administration, supportive care, pediatric health assessment, growth and development, pain management strategies, infection control, and communication skills. A pre-conference assessment and post-conference evaluation was completed by all attendees.

In the pre-conference assessment, African nurses expressed the desire to increase their knowledge in oncology nursing, including areas such as nursing assessment, safe handling of chemotherapy, pain management, palliative care, managing side effects, and communication skills. The post conference evaluation indicated that the conference met their learning needs, but that ongoing education is both necessary and desired by the nurses at ORCI to provide sound oncology nursing care to their patient population.

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### 3789

**MAKING A FACILITY TOBACCO FREE IN A TOBACCO FRIENDLY STATE.** Susan Stafford, RN, OCN®, Thomas Johns Cancer Hospital at CJWMC, Richmond, VA; Susan Stafford, RN, OCN®, Thomas Johns Cancer Hospital at CJWMC, Richmond, VA

Although the negative health-related effects of tobacco are well-known; patients, staff and visitors were all permitted to smoke on our hospital's premises. However, with the building of a new cancer hospital as well as the existence of a well-known cardiac hospital, the issue of restricting tobacco use anywhere on the hospital's campus was endorsed.

The purpose of this project was to develop a plan and work toward instituting a tobacco free environment involving the entire campus. This included not only our patients but our staff and visitors to the hospital and incorporated everywhere on the hospital's grounds.

A Tobacco Free Task Force Committee of hospital employees (smokers and non-smokers) was formed. Plans included setting the date to coincide with the National Great American Smoke-out for going tobacco free, changing the policies and procedures for smoking/non-smoking, fact sheets on how to address smokers, signage to be placed to make patients, staff and visitors aware of the date of becoming tobacco free, media announcements, tools to aid in helping individuals to stop smoking, and classes to help employees who wanted to quit or better manage their cravings during their work day.

The Tobacco Free program has been successful as evidence by tracking employee turnover rate, patient satisfaction survey, as well as security logs of smokers on campus. Since the program's inception, employee turnover rate has remained constant, only one patient complaint has been received, and security and staff have aptly handled anyone found smoking on the hospital's campus.

This initiative provides an example of a hospital's commitment to the prevention of disease while providing a safe, clean and healthy environment for all. This has been viewed very positively

by the community and interest in smoking cessation classes has increased. Furthermore, other area hospitals have made inquiries to determine the appropriate steps to make similar changes at their facilities.

### 3790

**SITE-SPECIFIC NURSE NAVIGATION FOR NEWLY DIAGNOSED ONCOLOGY/HEMATOLOGY PATIENTS.** Emily Tesar, RN, MSN, OCN®, Billings Clinic, Billings, MT

Receiving a new cancer diagnosis is overwhelming for even the most healthcare savvy patient. A new diagnosis comes with additional diagnostic examinations, multiple scheduling requirements (infusion, radiation, diagnostics, supportive care), concerns about financial burdens during treatment, and profound psychosocial needs. Due to this being an overwhelming time, crucial appointments can be missed and patients may not tap into all resources that comprehensive cancer programs offer.

At the Billings Clinic Cancer Center, seven cancer-site specific oncology nurses are on staff to attend appointments with patients and act as their professional safety nets. Nurse navigators attend appointments with all newly diagnosed patients, offer education and support, and ensure they receive comprehensive, multidisciplinary care.

Seven oncology nurses are assigned to be navigators for patients with the following cancer diagnosis: breast, GI (colon, rectal, pancreatic, esophageal, stomach), GU (bladder, kidney, prostate, testicular), GYN (vaginal, ovarian, vulvar, cervical, endometrial), hematological (multiple myeloma, lymphoma, leukemia), lung, melanoma, unknown primary, CNS, sarcoma, and head and neck. Patients have a navigator to act as a guide and attend all appointments until patients are on their second cycle of treatment, or are able to maneuver the oncology medical system independently.

In 2007, a survey conducted on 148 navigated patients revealed the following: 91% felt they understood the role of navigation, 92% felt their navigator played an important role, and 92% of patients felt their care was well coordinated.

Patients who treat at the Billings Clinic are assigned a nurse navigator who provides education, support, and ensures patients receive optimal multidisciplinary care. Navigators play an important role on the healthcare team for a newly diagnosed cancer patient.

### 3792

**CISPLATIN: EVALUATING THE CURRENT STANDARD OF HYDRATION FOR CISPLATIN ADMINISTRATION.** Patricia Albanese, RN, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY; Bridget Thom, MS, Memorial Sloan Kettering Cancer Center, New York, NY; Nancy Kline, PhD, RN, CPNP, FAAN, Memorial Sloan Kettering Cancer Center, New York, NY

The current standard of high-volume hydration for cisplatin administration, based on the potential for renal damage, was implemented prior to the availability of improved anti-emetic drugs. However, with the use of Aloxi, Emend, and dexamethasone, acute and delayed emesis is better controlled, allowing patients to maintain adequate oral intake during and after cisplatin administration.

The retrospective chart review sought to describe the amount of oral hydration patients receiving cisplatin can tolerate. Pilot data attained from this review will be used as rationale for a future study to determine if patients can maintain adequate oral hydration with a modified amount of IV hydration.

Roy's Adaptation Model describes the person as continually interacting with a changing environment who uses coping mechanisms to respond to environmental stressors. For purpose of this review, the environmental stressor is the potential for renal damage from cisplatin therapy and the coping mechanism is adequate self-hydration.

The medical records of all patients undergoing treatment for non-small cell lung cancer (NSCL) during their first cycle of moderate dose cisplatin from September 2007-May 2008 were reviewed, yielding a sample of 81 patients. Variables of interest

included oral and intravenous intake and output in milliliters and creatine levels prior to starting initial chemotherapy and 3 weeks after cisplatin administration.

Descriptive statistics were used to analyze the data. Oral hydration levels ranged from 200 ml to 3850 ml. On average, patients were able to take in 1299 ml of oral hydration (sd=627). Total intake including IV hydration, ranged from 2812 ml to 6586 ml with a mean of 3970 ml (sd=726 ml). Based on creatine levels, no patient experienced nephrotoxicity (mean =.93 ml, sd=.26, range=0.5, 1.3).

The findings suggest that patients are able to adequately self-hydrate during and after cisplatin administration. As such, the findings support an additional study that addresses whether rigorous IV hydration can be manipulated without compromising kidney function, with the ultimate goal of decreasing chair time in the outpatient unit, which impacts patient satisfaction and quality of life without compromising patient safety

### 3793

**A CELEBRATION OF CHANGE: IMPLEMENTING AN ONCOLOGY-SPECIFIC, ELECTRONIC DOCUMENTATION SYSTEM IN AN OUTPATIENT ONCOLOGY UNIT.** Jeanene Robison, MSN, RN, AOCN®, Christ Hospital, Cincinnati, OH; Lois Hathorn, RN, BSN, OCN®, Christ Hospital, Cincinnati, OH; Connie Cook, RN, BSN, Christ Hospital, Cincinnati, OH

Electronic documentation is the trend of the future. The Christ Hospital (TCH), a 555 bed hospital in the Midwest, implemented EPIC, an electronic medical record, in 5/08. TCH Cancer Center will implement Beacon, an oncology-specific application of the EPIC electronic documentation system, in 3/09. This module contains chemotherapy and supportive treatment plans with workflows affecting physicians, pharmacists, nurses and medical secretaries.

The purpose of implementing EPIC and Beacon, the oncology-specific, electronic documentation system, was to: (1) improve patient safety by omitting the potential for error due to illegible MD handwriting in med orders; (2) improve patient safety using bar code medication administration; (3) increase the use of evidenced based practice in chemotherapy, biotherapy and supportive care protocols; (4) improve the coding and billing process; and (5) decrease time needed to retrieve patient data from past patient visit encounters.

Process experts were chosen to participate on the Implementation Team, including oncology physicians and an interdisciplinary team. A Project Team Manager and computer analysts assisted the team in developing and implementing Beacon.

The work of the Implementation Team included: (1) standardizing workflows for the oncology interdisciplinary team; (2) building chemotherapy, biotherapy, and supportive care protocols, using evidenced based practice; (3) building the Beacon environment for "real life" use; (4) meeting Ohio Board of Pharmacy's requirements for electronic documentation of medications; (5) delivering training to all oncology staff involved in Beacon implementation; and (6) creating processes to support stabilization of the new system.

Throughout the hospital, med errors have decreased by 50% in the last 6 months. The Cancer Center staff recognizes the benefits of the system related to patient safety, audit trails for patient care, and ability to retrieve data from prior visits. Some physicians complained that this process is more time consuming. Press Ganey scores, including patient's waiting time, decreased from 95.5 (2nd quarter 2008) to 92.7 (4th quarter 2008). Education of physicians and staff has been challenging and is ongoing.

Documentation in the patient's medical record is a legal requirement. Nurses will be able to use the information in this presentation to guide similar projects to implement electronic documentation systems in oncology outpatient settings.

### 3794

**MYCOSIS FUNGOIDES: DEVELOPMENT OF PATIENT EDUCATION MATERIAL.** Patricia Horace, RN, BSN, MSN, UT MD

Anderson Cancer Center, Houston, TX; Bouthaina Dabaja, MD, UT MD Anderson Cancer Center, Houston, TX

Mycosis Fungoides, a rare skin disorder often misdiagnosed for many years. One of the most effective therapies is Total Skin Electron Beam. This is a complex treatment over 8 weeks, it is associated with serious short and long term side effects including: debilitating pain, especially in the extremities, skin ulcers, infection, and fatigue. Education about the disease, treatment, and treatment related side effects should be initiated immediately before treatment and continue throughout and after completion of therapy. The complexity in managing side effects requires a well-structured team effort between the oncologist and the oncology nurse to provide the appropriate care.

The purpose of this project was to develop a brochure presenting key information to patients and their families, including: nature of the disease, treatment details, short and long term side effects of the disease and the treatment, managing side effects, and finally the prognosis.

A patient education brochure was developed in collaboration with the Radiation Oncologist, the radiation oncology nurse, and the radiation therapists. The brochure outlines the treatment sessions, the awkward and incommensurate positions during treatment, expected side effects, and an overview of care and precautions to be taken.

The brochure was submitted and accepted as part of the education teaching for Mycosis Fungoides patients. It is a teaching material used by the nurse primarily, and later by the therapist as a reinforcement teaching tool during treatment. Many patients expressed their satisfaction and peace of mind regarding the educational material and the explanations about the treatment plan. Patients are reporting side effects much sooner since they know now what to look for during and after treatment. In addition, physicians, nurses, and therapists have a common information tool to refer to.

Mycosis Fungoides is a skin cancer that is rarely addressed in the nursing community, including oncology nurses, who have little experience in dealing with the disease especially managing the serious side effects of treatment. Patients are now less apprehensive about the disease and therapy as they cope with the disease and the treatment side effects.

### 3796

**INTEGRATING 'PUTTING EVIDENCE INTO PRACTICE' (PEP®) TO ACCELERATE KNOWLEDGE TRANSLATION AND IMPROVE PATIENT OUTCOMES.** Paula Bohaboy, RN, OCN®, National Institutes of Health, Bethesda, MD; Kathleen Castro, RN, MS, AOCN®, National Institutes of Health, Bethesda, MD; Kimberly Scott, RN, BSN, OCN®, National Institutes of Health, Bethesda, MD; Sandra Mitchell, PhD, CRNP, AOCN®, National Institutes of Health, Bethesda, MD

Evidence Based Practice (EBP) offers a foundation to define nurses' contributions to care and improve patient outcomes through integrating research into practice. Incorporating EBP into busy clinical settings poses challenges; performing literature searches, analyzing, appraising, and synthesizing evidence is labor-intensive and costly. The Oncology Nursing Society's (ONS) 'Putting Evidence into Practice' (PEP®) initiative has critically appraised and synthesized evidence on various topics, creating tables of evidence and interpretive summaries that guide clinicians in selecting interventions. However, a need exists to demonstrate the outcomes achieved through utilizing the PEP® resources.

Our objective is to illustrate how we utilized PEP® resources to create and disseminate an evidence-based standard of practice (SOP) for care of the neutropenic patient.

A group of nurses was assembled, and began by reviewing the material provided in the PEP® resources. Because PEP® provides a thorough critical appraisal and synthesis of the most recent evidence, we examined only the literature that had emerged since the PEP® infection prevention guidelines were last updated. We added to PEP® resources literature identified from our focused

searches, and created an evidence table outlining key points, level of evidence, strengths, and limitations. This table provided supplementary information to the SOP, and statements within the SOP were directly referenced to citations from the table.

By utilizing the PEP® resources, our evidence-based SOP and supporting documents were developed within two days and approved through shared governance within three weeks, compared with longer time frames historically encountered. Conflicts that may have arisen amongst team members were reduced because the group focused on building the SOP from the evidence rather than on harmonizing diverse practices across units. The ability to quickly access pre-appraised evidence reduced bias and promoted stronger support for the SOP's recommendations.

Based on our initial success, we plan to utilize PEP® in developing additional evidence-based SOPs. As institutions seek to achieve and maintain their designation as Magnet organizations, PEP® can assist clinical leaders in selecting indicators of nursing care quality, and help to clearly demonstrate the integration of research into practice and shared governance structures.

### 3798

#### SACRED ENCOUNTERS: CREATING A CULTURE OF CARE.

Wendy Lenhart, RN, OCN®, Mission Hospital Regional Medical Center, Mission Viejo, CA; Michelle Vollmond, RN, OCN®, Mission Hospital, Mission Viejo, CA; Linnell Allen, RN, Mission Hospital, Mission Viejo, CA; Mary Noakes, BSN, RN, OCN®, Mission Hospital, Mission Viejo, CA; June Melford, RN, MSN, Mission Hospital, Mission Viejo, CA; Diane Drake, PhD, RN, Mission Hospital, Mission Viejo, CA

Cancer patients and their families can experience significant physical, emotional and spiritual distress. Providing a vision that supports nursing care of the patient and family is an important administrative and leadership responsibility. In 2007, three strategic goals - perfect care, sacred encounters and healthy communities were initiated by the St. Joseph Health System. In 2008, actualization of the concept of sacred encounters resonated with oncology nurses who work on a blended adult medical oncology inpatient unit.

The overall purpose of the project was to integrate the vision of sacred encounters with oncology nursing practice. The theory of Integral Nursing was selected as the conceptual model to explain the integration of sacred encounters within the dynamic relationships of system structures, shared values, and nursing practice.

The definition of sacred encounters of providing care that promotes a healing partnership of love and care, leading to optimal patient, family and caregiver relationships and experiences was reviewed by the cancer nursing staff. The word sacred is an acronym for the concepts representing shared values of: sensitive, attentive, compassionate, respectful, engaged and dignity. Nursing practice of sacred encounters was identified as interventions that included: narrative written stories by nurses to share examples of sacred encounters; development of a service standard for all nurses to state their name, occupation, duties, and smile when encountering patients and families; patient care rounding by bedside and manager nurses; individualized patient plan of care communicated each shift on bedside white boards; and a commitment to compassionate end of life care through a program called No One Dies Alone.

The administrative vision of sacred encounters was successfully initiated in cancer nursing practice. Patient satisfaction scores, (indicators sensitive to the concept of sacred encounters) have improved since the initiation of this project. Cancer nursing practice is integral to the caring culture created in the hospital work environment.

Oncology nurses can implement strategies with measurable impact on patient outcomes and influence optimal relationships which promote a culture sensitive to the needs of patients. Ongoing identification of interventions that promote sacred encounters will enhance cancer nursing practice.

### 3799

#### ASSOCIATION OF MATERNAL UNCERTAINTY AND DISTRESS WITH QUALITY OF LIFE AND HOPE. Ying-Mei Liu, Chang Gung Institute of Technology, Taoyuan, Taiwan

When one of their children is diagnosed with cancer, most parents are devastated. As they confront the life-threatening event parents experience uncertainty and distress about the future health of their child. The presence of continued distress has been associated with a chronic negative impact. Parental well-being is an important aspect of a family's adaptation to pediatric oncology. Research has yet to determine what allows some mothers to respond well and return to normal functioning after their child's treatment for cancer, while others have prolonged difficulties. It is important to identify those mothers who have greater uncertainty and distress and are at increased risk for poor outcomes. Study findings would allow for the creation of interventions that could facilitate and improve their coping.

The purpose of this study was to identify uncertainty and distress in mothers of children with cancer, and analyze these relationships with quality of life and hope.

Four well tested research instruments and one demographic questionnaire were administered to a sample of 200 mothers whose children with cancer. Instruments used included the Parental Perception of Uncertainty Scale, the Symptom Checklist 35 Revised, the Short Form 36 Health Survey, the Herth Hope Index, and a demographic questionnaire. Cluster analyses were used to identify subgroups of mothers of children with cancer regarding maternal perceived uncertainty and distress. Differences in demographic characteristics, and outcomes were evaluated using analysis of variance and chi square analysis.

Four subgroups were identified by the cluster analyses. They include high uncertainty and high distress, moderate uncertainty and moderate distress, low uncertainty and low distress, and high uncertainty and low distress. The low uncertainty and low distress group reported the best maternal quality of life. Mothers in the low uncertainty and low distress subgroup had the highest hope, but no differences of hope were found among the other three subgroups. The findings of this study provide insight for pediatric oncology clinicians about specific areas of maternal concern. Guidance is offered for discussing issues related to uncertainty, distress, and quality of life with the mothers of their patients.

### 3800

#### PATIENTS ON DOCETAXEL: IMPROVING THEIR QUALITY OF LIFE WITH EDUCATION. Beth Sferrazza, RN, BSN, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY

Epiphora, a condition defined as excessive tearing occurs in 64% of weekly docetaxel patients and 39% of patients receiving docetaxel every three weeks. Docetaxel is secreted in the tears causing inflammation of the nasolacrimal drainage ducts. Methods of treatment include: moisturizing, corticosteroid or antimicrobial eye drops, dacryocystorhinostomy, and silicone or Pyrex tube insertion. Nurses most routinely educate docetaxel patients on the side effects of hypersensitivity, peripheral neuropathy, and myelosuppression; less frequently on epiphora.

Teaching nurses about this side effect may improve patient education and ultimately the patient's quality of life. An educated nurse and patient could lead to early detection and intervention. Patients would be more equipped to recognize and report early signs and symptoms of epiphora; nurses would have a heightened awareness to routinely assess for this condition. Resolution of epiphora can decrease visual problems with activities such as driving and reading.

A comprehensive literature search using the Pubmed, Cinahl, Ovid, and the Cochrane Library was conducted using the terms, docetaxel and epiphora, canalicular stenosis, excessive tearing, and eye complications. A presentation was developed from the researched evidence. An educational program was developed and presented from January through April 2008; approximately 50 outpatient



chemotherapy nurses were educated on epiphora. The hospital's patient education materials and nursing documentation on patient education were changed to include epiphora as a side effect of docetaxel. A plan of care was developed with the medical oncologists and ophthalmologists for patients at risk for epiphora.

At baseline, documentation of epiphora education did not exist. Following the interventions, a retrospective chart review revealed that 30% of patients received education about epiphora. The evaluation of documentation demonstrated an increase in the presence of patient education on this side effect.

More nursing research is needed to determine the relationship between education and the identification of epiphora symptoms as related to improving the patient's quality of life. This presentation will present an evidenced based overview of epiphora, our findings regarding the presence of patient education, and a description of changes made to patient education materials and nursing documentation.

### 3801

**SMOOTHING THE TRANSITION INTO PRACTICE: A SURVIVAL GUIDE FOR NEW ONCOLOGY NURSES.** Amy Bush, RN, OCN®, Yale-New Haven Hospital, New Haven, CT; Rebecca Banyas, RN, Yale-New Haven Hospital, New Haven, CT

Oncology nursing is a unique practice requiring specific knowledge and competency. New nurses come prepared with knowledge of medical/surgical care, but little knowledge of oncologic care. The complexity of organizational structure with multiple care protocols led us to develop a guide that would assist new nurses to navigate the organizational structure and introduce clinical aspects of oncology nursing. We developed a practical, quick reference guide as a nurse residency program project. As graduate nurses, we believed that a unit specific survival guide would aid new nurses in their transition to autonomous nursing practice more efficiently and effectively.

The goal was to develop a unit specific survival guide with concise, relevant and useful information for new oncology nurses.

Content was limited to those clinical issues most often encountered on the medical oncology unit. A thirty-one page booklet was compiled including pertinent department phone numbers, instructions regarding emergency protocols, and admission assessment. It comprises care and monitoring protocols for symptom management, oncologic emergencies, neutropenic fever, sickle cell crisis, and readmitted allogeneic transplant patients. Procedural instructions for blood products, central venous access devices, Denver® catheters, and chest tubes are outlined. Guidelines for commonly administered medications are provided. This guide also cites references and refers to more specific instructions in the clinical practice manual.

Twelve new nurses, hired between April and September 2008, were surveyed to acquire feedback related to the effectiveness of the survival guide. Results indicated that the survival guide was a useful reference in daily practice. All sections were described as being useful with neutropenia/neutropenic fever, central access devices, and readmitted allogeneic transplant care being most helpful. Nurses receiving the guide prior to orientation, found it beneficial in previewing unit activities. Improvement suggestions included addition of laminated cards with quick reference content.

In creating a unit specific survival guide, we have provided new nurses with a valuable tool that will facilitate transition into independent practice. This resource can also be used by existing staff or pool personnel as a quick reference. In the future, the survival guide will be distributed to new nurses prior to their unit orientation with revisions to further streamline content.

### 3804

**CURRENT KOREAN EXPERIENCE: EFFECTIVE MANAGEMENT OF THE HAND-FOOT SYNDROME IN COLON CANCER PATIENTS RECEIVING CAPECITABINE AS ADJUVANT**

**CHEMOTHERAPY.** Hyun Sook Son, RN, Samsung Medical Center, Seoul, Korea; Woo Yong Lee, MD, Samsung Medical Center, Korea; Ho-Kyung Chun, MD, Samsung Medical Center, Korea

It is widely accepted that capecitabine is noticeably efficacious as an auxiliary anticancer treatment for oncology cancer and capecitabine is a safe and effective treatment method replacing the existing injection medication, 5-FU/LV, having equivalent results due to convenience of oral medication comparing with injection medication. However, there is a difficulty in observing fulfillment of treatment and managing adverse events because the medication and treatment is mainly carried out off hospital. Especially, the hand-foot syndrome(HFS) is the only clinical adverse event that commonly occurs with capecitabine treatment.

The objective of our study was to describe the incidence and effective management of the hand-foot syndrome (HFS) and the compliance with treatment of patients with stage IIB, IIIA, IIIB, and IIIC colon cancer that were treated with capecitabine alone as adjuvant therapy.

Between 19 October 2005 and 22 July 2007, 128 patients fulfilled the inclusion criteria and were included in this retrospective analysis of prospectively collected data. An oncology nurse enrolled subjects during the first round of treatment and collected data on the management of HFS; the data included five interviews and four phone-call audits.

The median patient age was 62 (range: 29-84 years). The treatment compliance rate was 93.8% (120 out of the 128 patients). The HFS developed in 99 patients (77.4%). Forty seven patients (36.7%) had grade 1 HFS, 39 patients (30.5%) had grade 2 HFS and 13 patients (10.2%) had grade 3 HFS, as their most severe episode. For Grade 1 patients, the dose was maintained, and skin barrier cream and MEBO (moist exposed burn ointment) were applied. For Grade 2 patients, either the dose was maintained or 25% of the dose was reduced; MEBO and supportive care were provided. For Grade 3 patients, one cycle of chemotherapy was interrupted followed by dose adjustment; MEBO and supportive care were provided.

HFS is manageable if both the patients and oncology care teams are educated about HFS associated with capecitabine. The HFS is treated by patient education, preventive management, ointment application, conservative management, dose reduction, and interruption of chemotherapy administration. The individual patients' condition and situation must also be considered. The active participation of patient and the oncology nurse is key to effective management of the HFS.

### 3807

**WORKFLOW ANALYSIS IN ONE COMMUNITY ONCOLOGY OUTPATIENT SETTING: ADVANCED PRACTICE NURSE (APN) VS. PHYSICIANS.** Ashleigh Slater, RN, BSN, OCN®, University of Pittsburgh School of Nursing, Pittsburgh, PA; Margaret Rosenzweig, PhD, APN-BC, AOCNP®, University of Pittsburgh School of Nursing, Pittsburgh, PA; Cheryl Steele, RN, MSN, University of Pittsburgh Cancer Centers, Pittsburgh, PA

Use of APN alone or in collaboration with physicians has a long history related to patient outcomes in medical care, but has not been well analyzed in oncology. Work time analysis helps to define elements of the oncology APN role, delineating unique outcomes for analysis.

Purpose: 1) Define the major role of the APN in oncology through time analysis. 2) Compare specific elements of oncology practice (time reviewing records/patient, time with patient, talking to patient and family, talking to other nurses/physicians re: patients, co-coordinating patient and office issues) of APN vs. collaborating physicians in one community outpatient setting.

The Participatory, Evidence-Based, Patient-Focused Process for APN (PEPPA) framework defines two critical components of the APN role as coordinated patient care and collaboration with health professionals. These serve as primary study outcomes.

Comparative, two arm study of one APN and two physicians with independent schedules (new and returning patients) at one community outpatient oncology center for three days. Daily activities recorded in minutes by trained third party observer. Data analysis of six major focus areas using SPSS v.14, 2 group independent t tests.

Significantly more time spent by APN vs. MD for five of six categories 1) review of records (APN: 5.5 minutes, SD 5.9 vs. MD: 1.9 minutes SD 2.1;  $p=.000$ ), 2) total time of patient visit (APN 33.3 minutes/visit, SD 11.0 vs. MD: 17.7 minutes/visit, SD 9.9;  $p=.000$ ), 3) physical exam APN: 6.5 minutes/visit, SD 2.2 vs. MD 2.9 minutes/visit, SD 1.4,  $p=.000$ ), 4) talking with patient and family, APN: 21.0 minutes/visit, SD 11.5 vs. MD 7.7 minutes/visit, SD 7.7,  $p=.004$  5) coordinating care with nursing/physicians (APN 6.1 minutes/conversation, SD 6.2 vs. MD 4.2 minutes/conversation, SD 3.6,  $p=.108$ : and 6) co-coordinating patient and office issues APN: 63.3 minutes/day, SD 33.1 vs. MD 0 minutes/day, SD 00,  $p=.03$ .

These results are the first time analysis of APN vs. MD in cancer care. Time measurement does not measure patient outcomes but delineates critical role elements for further research in measurement of specific, unique oncology APN patient outcomes.

### 3809

**ONE DISEASE, TWO LIVES: EXPLORING THE TREATMENT OF BREAST CANCER DURING PREGNANCY.** Lara Meyer, BSN, RN, University of Washington Medical Center, Seattle, WA; Alexa Visco, BSN, RN, Fletcher Allen Healthcare Medical Center, Burlington, VT; Carlton Brown, PhD, RN, AOCN®, University of Delaware, Newark, DE

As women in the United States are continuing to delay childbirth and because the risk of breast cancer increases with age, it can be hypothesized that the incidence of breast cancer during pregnancy will increase. Historically, the two spheres of clinical care (labor and delivery and oncology) rarely overlapped. Recent case studies suggest that the administration of chemotherapeutic agents during the second and third trimester may be safe to both the mother and fetus. Therefore, this presentation aims to discuss the current trends in breast cancer and pregnancy and the associated nursing implications.

The amount of evidenced-based knowledge surrounding the treatment of breast cancer during pregnancy is extremely limited. The goal of the presentation is to focus on three specific case studies of patients with breast cancer who underwent treatment during pregnancy, discussing outcomes of mothers and infants who received chemotherapy in utero and explore associated nursing implications.

Statistical and case study analysis are used to identify hypotheses, risk factors and outcomes of pregnant women with breast cancer, highlighting the role of the nurse throughout each stage of the treatment process.

Three case studies are analyzed and presented in the absence of randomized clinical trials to investigate the safe use of chemotherapeutic agents during pregnancy. The outcomes of mother and baby are addressed with regards to treatment and gestational age. Maternal and neonatal follow up are used to conclude long term effects of treatment.

In reviewing the selected case reports, patients were most commonly diagnosed at advanced stages of cancer making the dilemma between aggressive chemotherapy and fetal safety inevitable. The outcomes of these women and their treatments are not conclusive in diagnosing and determining treatment for pregnant women with breast cancer, but rather bring attention to the possibilities of life saving treatments that may have been considered contraindicated in the past. Caring for such patients requires the nurse to be proficient in the most current research and evidenced based treatments, as well as having the knowledge and ability to provide emotional and psychological support for these patients and their families.

### 3812

#### **INTERDISCIPLINARY BOOK CLUB: AN INNOVATIVE APPROACH TO PROVIDE SUPPORT TO CANCER SURVIVORS.**

Christine Krall, RN, BSN, OCN®, Ohio State University James Cancer Hospital and Solove Research Institute, Columbus, OH; Mike Uscio, BS, MLS, Leukemia and Lymphoma Society, Columbus, OH

Literature shows the numerous benefits of support groups, yet many groups struggle with attendance, participation and retention of oncology patients. An innovative alternative social gathering for cancer survivors may need to be considered.

A needs assessment survey of 100 hematology oncology patients indicated an interest in a book club. A social worker from the Leukemia and Lymphoma Society and a staff nurse from an NCI designated cancer hospital partnered to create the Cancer Survivors Book Club. Approximately twenty survivors meet monthly at a local bookstore to discuss the assigned book. The Leukemia and Lymphoma Society provide coffee, breakfast, and the books. The survivors have taken ownership of the group from the first meeting in January 2008. Together they have decided they wanted to read a wide variety of books including general cancer information, survivor testimonials, inspirational, fiction and nonfiction. The oncology nurse chose and facilitated the first six meetings. With the assistance of the nurse, members now choose the books and alternate facilitating the discussions. At the end of each gathering the book is rated 1-5 by the group and posted on the Leukemia and Lymphoma Society's blog.

The group has had very consistent attendance with a retention rate of 90%. A survey of participants completed ten months after the clubs inception confirmed that members are highly enthusiastic about attending the book reviews and look forward to reading the books. Quote from member – "The idea of the book club is wonderful. Sharing with people who can understand where you are coming from is comforting and inspiring! The staff does an outstanding job in keeping the books interesting and stimulating conversation."

Oncology nurse involvement and innovative twists on the traditional support group can increase participation and retention of oncology patients. Other cancer programs may consider this non-traditional approach to increase participation and participant satisfaction.

### 3814

#### **LIVING WITH SUFFERING: THE PROCESS OF COPING WITH METASTATIC BREAST CANCER PAIN.**

Mary Diane Arathuzik, PhD, RN, ACNS-BC, Emmanuel College, Boston, MA

Pain frequently is an integral part of the life of advanced breast cancer patients. Precious little is understood about the process used by advanced breast cancer patients to cope with pain.

The purpose of this qualitative study was to investigate the process used by metastatic breast cancer patients to cope with pain. Coping with metastatic breast cancer pain was investigated as a process unfolding with repeated metastatic pain experiences.

Grounded theory methodology was used in this study to discover a basic psychological or social process of how metastatic breast cancer patients cope with pain.

A purposive sample of 19 women between the ages of 20 and 80 years with a confirmed diagnosis of metastatic breast cancer and pain due to bone or nerve metastases was drawn from the inpatient and outpatient populations of three community hospitals. Lengthy one to three hour semi-structured interviews provided documentation of how these metastatic breast cancer patients coped with cancer pain. A semi-structured interview schedule was used to elicit descriptions from the women about how they coped with pain. Data collection and analysis occurred simultaneously during a two and one-half year period of time. Interview data were content analyzed according to the constant comparative method of abstracting the qualitative data into codes and categories.

The analysis yielded the core process of living with suffering. It is a fluid non-linear process whereby metastatic cancer patients endure suffering and use coping strategies to deal with pain based on remission, exacerbation, recurrence or stabilization of their disease. Three main strategies facilitated the major process: struggling with pain, surrendering to pain and adjusting to pain. Use of these three strategies depended upon the patient's age, the pain duration, the pain intensity and the patient's past experience with pain. Nurses and other health professionals should understand the process used by metastatic breast cancer patients to cope with pain. Knowledge gained from this research should help oncology nurses to assist patients to develop effective pain coping strategies.

**Funding Source:** Purdue Pharma grant

### 3815

**THE "PROTOCOL IMPACT QUERY SYSTEM," A TOOL FOR PATIENT AND RESOURCE UTILIZATION IN ONCOLOGY CLINICAL RESEARCH TRIALS.** Jean Ward, RN, BSN, OCN®, National Institutes of Health, Bethesda, MD; Kathleen Castro, RN, MS, AOCN®, National Institutes of Health, Bethesda, MD; Antoinette Jones, LCDR, BSN, RN, National Institutes of Health, Bethesda, MD

The Joint Commission's new National Patient Safety Goal reads: "Implement a standardized approach to hand off communication." In a research environment, this may be challenging. It is essential that detailed and precise communications exist between the research team and the clinical research nurse (CRN) to maintain patient safety and protocol integrity. A system that allows for real-time communication and feedback is necessary to achieve research objectives.

Our purpose is to describe the "Protocol Impact Query System (PIQS)" we created to standardize communication between the research team and oncology CRN.

The oncology ambulatory infusion center would frequently be notified of a new clinical trial only days before the first patient received treatment. This lack of planning and communication lead to frustration and demands on staffing and resource allocation that we were not prepared to meet. To ensure patient safety and protocol integrity the PIQS was developed. The PIQS assesses and mobilizes resources to implement new clinical trials approved by the Institutional Review Board (IRB). The PIQS process is as follows: 1) An ambulatory oncology CRN is notified a protocol has received IRB approval 2) The research nurse completes an impact query form outlining the patient population, phase of study and treatment schema, 3) CRN leadership review the protocol query form and determine that the population being treated is appropriate for the ambulatory setting, which includes having appropriate equipment and staffing resources, 4) Potential barriers to protocol implementation are identified, 5) An education session is scheduled for nursing staff including an opportunity to ask and respond to questions. Once completed, the first research participant receives treatment.

To date 98% of our research teams utilize the PIQS to implement their trials. The query system serves as a prompt to highlight specifics aspects of the protocol requiring additional clarification, training regarding trial equipment, procedures, schema and staff skill mix. Ongoing feedback is received from the research team at weekly intervals to determine if a change to the system is required.

We have found that implementation of a standardized communication system is an effective means of meeting national patient safety goals.

### 3817

**CONNECTING WITH PATIENTS AND CAREGIVERS TO FOSTER INSPIRATION AND HEALING THROUGH MYLIFELINE.ORG CANCER FOUNDATION.** Laurie Lahr, RN, MS, OCN®, Rocky Mountain Cancer Centers, Longmont, CO; Marcia Donziger, MyLifeLine.org Cancer Foundation, Denver,

CO; Robert E. Fisher, MD, Rocky Mountain Cancer Centers, Longmont, CO

Patients can become very overwhelmed by the requests from family and friends to stay updated as to their condition when diagnosed with cancer. Returning phone calls and repeating the same information is physically and emotionally exhausting. Sharing updates and managing caring messages through a centralized website helps everyone touched by cancer. MyLifeLine.org Cancer Foundation is a nonprofit organization that encourages patients and caregivers to create free, customized websites to enhance knowledge, communication and healing. Utilizing the internet for researching information related to cancer is well established in the literature and this website is devoted to offering educational resources and support for patients, family and friends.

The goal was to identify the benefit to patients and caregivers who utilized MyLifeLine.org as a communication tool. Through an email survey in October 2008, utilization of this website was evaluated compared with that of traditional communication, such as a telephone call. Using the information obtained from this survey, nurses could educate patients and caregivers regarding this important communication tool.

A survey was emailed to 250 individuals who used MyLifeLine.org as a communication tool. Information obtained from respondents was used to analyze the effect of this tool on communication, healing and inspiration. The nursing department evaluated the responses to enhance educational program development.

Thirty-three percent of users responded to the survey. Of these respondents, seventy-one percent of patients and caregivers that used MyLifeLine.org reported an improved sense of communication. Forty-four percent of the respondents felt that it limited the number of phone calls. Patients and caregivers felt they were better informed, educated and supported through the use of this website. The nursing staff was able to describe and demonstrate this interactive website to patients during their education session. Benefits and features included connecting updates, photo galleries, learning links, inspiring messages, helping calendars and a laughing medicine section.

Nursing involvement is essential to describing new tools for patients and caregivers as it relates to communication, healing, knowledge and inspiration. MyLifeLine.org Cancer Foundation is an effective communication tool for patients and caregivers as demonstrated by this on-line survey.

### 3818

**DEVELOPMENT AND IMPLEMENTATION OF A SERVICE EXCELLENCE PROGRAM TO IMPROVE PATIENT CARE AND SATISFACTION.** Patrice Steininger, RN, OCN®, John Randolph Medical Center, Hopewell, VA; Deborah Harris, RN, John Randolph Medical Center, Hopewell, VA

Provision of Service Excellence including patient satisfaction is an integral part of the health care experience. The engagement of staff from every hospital department contributes to the successful implementation of any initiative. Additionally, current studies indicate the measurement of patient satisfaction plays an important role in the growth toward accountability among health care providers. The competitive atmosphere between health care facilities is expected to increase in coming years along with the expectation of higher levels of customer service and quality of care.

The goal of the initiative was to develop and sustain a program for improving patient satisfaction in areas directly related to patient's perception of nursing care. Utilization of standardized surveys which provided data weekly and results compiled from leadership interviews were utilized to monitor success.

Best practices were researched, evaluated and adopted. Leadership development of Standards of Behavior preceded the introduction of the initiative to staff. After intense education and discussion staff members were invited to sign the Standards of Behavior agreement. Integral aspects of the initiative included hourly rounding to proactively assess patients' needs, communi-



cation boards placed in patient rooms, daily huddles with staff to emphasize important concepts, leadership visits to new admissions within the first twenty-four hours, scripted rounds made three times a week, and staff recognition.

Initial staff response was varied. Previous attempts with similar programs had lost momentum. With daily interactions and discussion with staff, visibility and participation of leadership, along with weekly review and evaluation of survey data resulted in a more engaged and enthusiastic staff. Over a six month period overall satisfaction in the facility increased from 84% to 87.5%. Results on the Oncology unit improved from 80% to 93%.

The program developed and implemented to engage staff and provide service excellence has encouraged teamwork on the unit and throughout the facility. Additionally, this initiative may create loyalty of both staff and customers as well as building market position. Continued success will result from promotion and maintenance of the Service Excellence Program as the expected standard.

### 3819

**PSYCHOSOCIAL CORRELATES OF DYSPNEA: DIMENSIONS IN LUNG CANCER.** Margaret Joyce, RN, AOCN®, Cancer Institute of New Jersey, New Brunswick, NJ; Susan Beck, PhD, APRN, FAAN, University of Utah College of Nursing, Salt Lake City, UT; Alexa Doig, PhD, RN, University of Utah College of Nursing, Salt Lake City, UT; Paula Meek, PhD, RN, FAAN, University of Colorado Health Sciences, Denver, CO; Linda Patrick-Miller, PhD, University of Medicine and Dentistry of New Jersey, New Brunswick, NJ; Marjorie Pett, MStat, DSW, University of Utah College of Nursing, Salt Lake City, UT

Dyspnea can be a refractory symptom in lung cancer. The subjective dyspnea experience is composed of both sensory and affective dimensions. Few studies have reported correlates of lung-cancer-related dyspnea; none have examined correlates of the separate dyspnea dimensions.

This study examined to what extent age, gender, race, time since diagnosis, cancer therapy, co-morbid diagnoses, smoking status, dyspnea duration, and state or trait anxiety are associated with Breathing Effort and Breathing Distress. This study addressed ONS research priorities of palliative care and evidence based practice.

Evidence exists that individuals can discriminate between dyspnea dimensions. Steele and Shaver proposed a model that includes two dimensions of dyspnea and the interaction of variables to explain dyspnea tolerance. This study tested the same variables.

Participants (N=37) with advanced or locally advanced lung cancer were recruited. All completed visual analog scales for breathing dimensions and the State/Trait Anxiety Inventory. Clinical and demographic information was collected. Correlational analyses evaluated variable relationships. Multiple regression analyses were conducted to determine predictors of Breathing Effort and Distress.

The data indicated significant associations among three variables (opioid use, state anxiety and history of asthma) and Breathing Effort and Distress measures. State anxiety and scheduled opioid use accounted for 28% of the variance in Breathing Effort ( $R^2 = .28$ ). State anxiety was positively associated with (greater) Breathing Effort ( $p = .05$ ); while scheduled opioid use was associated with less Breathing Effort ( $p = .01$ ). This finding supports ONS's "Putting Evidence into Practice" dyspnea synthesis that opioids are associated with reduced cancer-related dyspnea. Self-reported history of asthma accounted for 12% of the variance of Breathing Distress score ( $R^2 = .12$ ). In this sample, history of asthma was positively associated with (greater) Breathing Distress. If asthma is currently inadequately managed, incorporating successful asthma therapy into the dyspnea plan of care might reduce Breathing Distress. While a small sample limited the study's generalizability, the results obtained suggested additional information to further inform understanding of the dyspnea experience in lung cancer.

### 3820

**FINDING BALANCE: INSIGHTS FROM BEREAVED CAREGIVERS OF PALLIATIVE CANCER PATIENTS.** Lorraine Holt-slander, RN, PhD, CHPCN(c), University of Saskatchewan, Saskatoon, Canada; Jill Bally, RN, MN, University of Saskatchewan, Saskatoon, Canada

Many older, family caregivers will face bereavement as a result of cancer deaths, which are increasing in proportion to an increasing and aging population. Many family caregivers are taking on complex and exhausting levels of responsibility, which may affect their transition through bereavement. While it is acknowledged that family caregivers require support that extends into the time of bereavement, very little is known about their journey or how they find balance in their completely changed lives.

The purpose of the proposed research was to explore the experience and processes of "finding balance" for older, spousal, bereaved family caregivers of a palliative cancer patient. The specific aims were: a) to provide a conceptual understanding of the experience and processes of finding balance, b) to describe these definitions and processes within their social context, and c) to construct a substantive theory. The theory will provide a basis for the development of an intervention focused on the psychosocial needs of the bereaved family caregiver.

Constructivist grounded theory methods provided the philosophical framework for the research.

This study received approval from an institutional review board and the local health region's ethics committee. Ten open-ended, in-depth audio-taped interviews were conducted with five older adults, within their first year of bereavement after providing care to a spouse with terminal cancer. The participants completed diaries for 2 weeks, at which time a second interview was conducted. The interviews and diaries were transcribed verbatim and analyzed using constant comparative analysis.

Finding balance was difficult, a daily struggle, but an important aspect of getting through the ups and downs of the bereavement experience. Balance was found each day in daily choices, conversations with supportive people, and finding ways to deal with difficult emotions. The participants focused on positive thoughts, making plans, and reaching out to others in need in their challenging daily lives. This emerging theory may facilitate healthy outcomes for family caregivers after the death of the palliative cancer patient. Oncology nurses can assess and monitor bereaved caregivers who may be at risk for or are losing balance, requiring individualized support and intervention.

### 3821

**IS OBESITY A PROGNOSTIC INDICATOR FOR OVARIAN CANCER? A SYSTEMATIC REVIEW OF THE LITERATURE.** Sherry Adkins, RN, MSN, CNS, ANP-C, M.D. Anderson Cancer Center, Houston, TX

Obesity has been shown to be a well-established prognostic factor for several hormone-related cancers. However, the role that obesity plays in ovarian cancer has been inconsistently reported in the literature. Understanding the factors that may increase the risk for ovarian cancer recurrence and death is important for oncology nursing practice. Nursing interventions including risk-factor counseling and education regarding lifestyle modifications may decrease ovarian cancer morbidity and mortality. A review of the evidence is necessary to guide nursing practice.

The purpose of this review of the literature was to determine if obesity is a prognostic factor for ovarian cancer.

This systematic review included all pertinent studies that assessed the role that obesity plays in regards to disease-free and overall survival in ovarian cancer patients. Ten studies from the years 2002 to 2008 were reviewed.

The role that obesity plays in regards to survival in ovarian cancer is not conclusive. This review determined that there was an association between obesity and disease-free and overall survival in ovarian cancer in seven of the ten studies. However, not

all studies considered important confounding variables such as FIGO stage, tumor grade and histology, residual disease, type of chemotherapy, presence of ascites, and performance status. Many of the studies used self-reported height and weight, which is problematic. This review did elucidate the possibility that obese patients may be receiving suboptimal doses of chemotherapy due to current standard calculation measures

It is important to further study the role that obesity plays in ovarian cancer survival. Future studies should consider the confounding variables previously mentioned. There is also a need for further studies regarding the dosing of chemotherapy in the obese population in order to achieve maximum benefit and minimal harm. Although the evidence in regards to the role that obesity plays in survival is not conclusive at this time, there is a tremendous amount of evidence regarding the deleterious effect that obesity plays in other types of cancer, diabetes, and cardiovascular disease. Nursing has the opportunity to impact the overall health of the obese population through education and support of patients in their weight loss endeavors.

### 3822

**THE LEARNING NEEDS AND LEVEL OF KNOWLEDGE OF PATIENTS WHO VISITED OUTPATIENT UNIT RECEIVING CHEMOTHERAPY AT NATIONAL CANCER CENTER IN KOREA.** Mee Duk Jun, RN, MEd, OCN®, National Cancer Center, Gyeonggi-do, Korea

The longer survival with early cancer detection and cancer treatment advancement has occurred, patients with cancer have extensive learning needs in order to understand their disease, make treatment decisions, manage care and symptoms at home, and cope effectively. Specially there is an increased need for patient education in the patients population receiving chemotherapy because of the side effects of chemotherapy and treatment modalities. Healthcare professionals are challenged in meeting these extensive learning needs and required evaluation of learning needs of patients receiving chemotherapy.

This study was a descriptive investigation in order to analyze the learning needs of cancer outpatients receiving chemotherapy and level of knowledge in these patients.

After reviewing other related studies, the survey consisted of seven general questions about their cancer and their treatment, nine questions about cancer chemotherapy, and ten questions about life style and self-care behaviors. The validity of these contents were tested by the group of oncology specialists. Data were collected during the period from Jan. 2 to May 28, 2008 from 242 outpatients who both were receiving and planned to receive chemotherapy at National Cancer Center, Korea.

The study showed that learning needs (3.44-0.45) are higher than knowledge level (2.56-0.46) and learning needs were always high regardless of site of cancer, stage of cancer, previous treatment, time period, experience of chemotherapy, and demography. Learning needs about prognosis of disease were first, the symptoms of ER visits were second, and the treatment plans were third. Female cancer patients showed higher learning needs than male. Knowledge level showed high with both income and educational level.

This research may be useful to make systematic, personalized education materials for patients receiving chemotherapy based on their patients' knowledge level and learning needs in each stage of disease treatment. According to the result of high learning needs regardless of site and stage of cancer, previous treatment, time period, experience of chemotherapy, and demography, health care professionals need to provide education program to patients receiving chemotherapy periodically and continuously.

### 3825

**THE EFFECTS OF WRAPPED WARM FOOTBATH ON THE AUTONOMIC NERVOUS AND PSYCHONEUROIMMUNOLOGICAL ACTIVITIES IN TERMINAL CANCER INPATIENTS.**

Keiko Yamamoto, Yokohama City University, Yokohama, Japan

The effects of Wrapped Warm Footbath (soaking feet with a plastic bag wrapped up to the knee), a newly improved footbath technique, on the autonomic nervous system and psychoneuroimmunological activities were evaluated in terminal cancer inpatients. The footbath, originally developed for palliative care, is reported to be effective in the palliative care.

This study examined the immediate effects of the footbath on autonomic, neuroimmunological and psychological activities in terminal cancer inpatients volunteers at a time.

The mechanisms of the footbath are complex and unclear. In this study, for the effects of the footbath, autonomic, neuroimmunological and psychological evaluation were enlightened especially.

Eighteen subjects were divided into a footbath group (n=9) and a control group (n=9). The subjects received the footbath for 30 min and the control group were measured in supine position without The footbath Heart rate variability (HRV) analysis by every second with wavelet transformation was used for evaluation of the autonomic, sympathetic and parasympathetic activities. Salivary secretory immunoglobulin A (sIgA), and salivary cortisol levels were used as neuroimmunological parameters. Psychological conditions were measured using a Visual Analogue Scale (VAS) and Face Scale (FS).

The low frequency component (LF: 0.04-0.15Hz)/HF intra-footbath period and post-footbath period were significantly decreased in the footbath group (p=0.005). The high frequency component (HF: 0.15-0.4Hz) of HRV were not significantly increased in both groups. The sIgA was significantly increased in the footbath group (p=0.05). The cortisol level tended to be reduced in both groups. The changes in VAS and FS showed that the footbath group was relaxed significantly (p=0.05). Moreover, the changes in pain score showed that the footbath group tended to be relieved from pain (p=0.058). Evaluation by the VAS and FS suggested that the patients in the footbath group were significantly relaxed and tended to be relieved from pain. Wrapped Warm Footbath will be an effective method for relaxation, as it induces a significant decrease of sympathetic activity. Moreover, wavelet analysis of the HRV is a good indicator of the psychological condition in the time course of the footbath.

### 3826

**SYMPTOM CLUSTERS IN GASTRIC CANCER PATIENTS AT POSTOPERATIVE 3 MONTHS; A SINGLE INSTITUTIONAL STUDY IN KOREA.** Ae Ran Kim, RN, MN, Samsung Medical Center, Seoul, Korea; Sung Kim, MD, Department of Surgery, Samsung Medical Center, Sungkyunkwan University, Seoul, Korea

Gastric cancer is the most frequently occurring malignancy in Korea. Gastric cancer patients who underwent gastrectomy experience treatment-related symptoms and functional problems. Although individual symptoms of gastric cancer have been investigated previously, researches about symptom clusters of gastric cancer are largely difficult to find.

The purpose of this study are to identify symptom clusters of gastric cancer patients treated with gastrectomy and to describe correlations between symptom clusters and quality of life, and between symptom clusters and functions.

Symptom cluster means three or more concurrent symptoms which are related to each other and are not required to share the same etiology. We used the conceptual approaches of grouping symptoms to determine symptom-based clusters.

This study was undertaken in a single institution, located in Seoul, Korea. Patients were interviewed at postoperative 3months using EORTC QLQ-C30 and QLQ-STO22 questionnaires. We conducted factor analysis (principal components with varimax rotation) to identify symptom clusters with symptom scale scores of patients who completed both questionnaires. A Pearson correlation analysis was conducted to describe relations with symptom cluster, quality of life and functions.

486 patients completed both questionnaires at postoperative 3 months. They were 340 men and 146 women and mean age was 53.29 years. Three symptom clusters were identified; factor 1 (pain, chest and abdominal pains, reflux symptoms, constipation, dysphagia, nausea and vomiting, eating restrictions, and insomnia), factor 2 (anxiety, body image disturbance, fatigue, and financial difficulties), and factor 3 (appetite loss, taste alteration, and dry mouth). Pearson correlation coefficients among these three factors were ranged from 0.52 to 0.63. General health status/quality of life and all the functional scales were significantly related to the three symptom clusters. Higher symptom clusters represents lower quality of life and functional status. This study explored symptom clusters of gastric cancer patients treated with gastrectomy and how symptom clusters affected on quality of life and functional status. Nurses need to be aware of the disease specific symptoms and to develop nursing interventions related to quality of life or symptom management.

### 3827

**DIFFICULTIES FACED BY YOUNG FEMALE BREAST CANCER SURVIVORS IN JAPAN: A COMPARISON OF THE UNDER 36 YEAR-OLD AND THE 36 TO 45 YEAR-OLD FEMALE SURVIVOR AT THE DIAGNOSIS.** Mika Miyashita, RN, PhD, Hiroshima University, Hiroshima, Japan; Miyako Takahashi, MD, PhD, University of Tokyo, Tokyo, Japan

Breast cancer is the most common cancer among Japanese women. In 2002, it is estimated that 15.0% of all cases were in under age 45. Breast tumors in young breast cancer patients tend to be more aggressive, and have a greater effect negatively on QOL. Multi-modality treatment may bring menopause and infertility to young breast cancer survivors.

The purposes of this study are to describe difficulties faced by young breast cancer survivors in Japan, and to compare of the under 36 year-old and the 36 to 45 year-old female survivor at the diagnosis.

Survivorship encompasses the physical, psychosocial, and economic issues of cancer, from diagnosis until the end of life. It includes issues related to the ability to get health care and follow-up treatment, late effects of treatment, second cancers, and quality of life.

Study participants were recruited from self-help groups. Data were collected from focus group discussions in the under 36 year-old and the 36 to 45 year-old female survivors at the diagnosis. Three persons were interviewed individually. Interviews recorded in IC recorder were transcribed verbatim. Two authors reviewed the transcriptions and created thematic categories.

Twenty nine survivors, ranged in age from 26-35 years and twelve survivors, ranged in age from 36 to 41 years at the diagnosis participated in this study. As to age specific issues, participants reported menopause and fertility issues, changes of relationship and roles in family, career, economic problems, and feeling of isolation. The participants of the under 36 year-old groups reported sexuality issues and annoyance of having pity from medical profession, elderly breast cancer survivors, and commoners. Some participants in the 36-45 year-old group told difficulty of care for child who was preparing for the examination of admission to high school. As to general issues, participants reported difficulties of communication with physicians, lack of information, decision-making problem, sequela followed by surgery, side effects and late effects of adjuvant therapy, fear of recurrence, and uncertainty in the future. This study suggested that nurses should provide adequate information about those issues at the diagnosis through the follow-up phases and give chances of interaction with coetaneous survivors.

### 3829

**MANAGING THE ONCOLOGY PATIENT WITH AN ALTERED AIRWAY.** Janet McKiernan, RN, BSN, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY

Oncology patients may require alterations of their airway (ie, tracheostomy, laryngectomy) for varied reasons, most commonly

due to advanced head and neck (H&N) cancers. A patient with an altered airway can pose a significant challenge if he or she develops respiratory distress or requires resuscitative measures. The oncology nurse must be aware of the patient's modified anatomy in order to effectively manage their care in an emergency.

This presentation will describe a program developed at an NCI-designated comprehensive cancer center to educate nurses and physicians about managing oncology patients with altered airways. Specific learning objectives include: explain anatomic changes with tracheostomy and laryngectomy, list steps in assessing these patients with respiratory distress, and describe interventions for managing respiratory distress, including intubation.

Content of the educational program was developed collaboratively by a H&N oncology nurse, a H&N surgeon and an anesthesiologist. Differences between tracheostomy and laryngectomy are demonstrated with a variety of diagrams displaying changes in anatomy and air flow as well as various tubes utilized. Causes of respiratory distress are reviewed, highlighting the presentation and interventions for each. The presentation ends with an algorithm to guide actions if intubation is required. The program is in power-point with voice over and has been placed on our intranet.

This educational program is now mandatory for all intensive care residents and nurses as well as nurses working with H&N patients and in the urgent care center to ensure they can safely administer emergency care to these patients. A post test is completed by the learner to assess their knowledge of the material presented and their ability to apply the information in practice.

The content of this program is of value to oncology nurses working in any setting where they may encounter patients with cancer of the head and neck. In addition, the educational program itself may be used as a model for educating clinicians in other centers as the need for a quick and effective response in an emergency situation can mean the difference between life and death for H&N patients with altered airways.

### 3831

**PROGRAM EDUCATES BREAST CANCER SURVIVORS ON THE IMPORTANCE OF HEALTHY LIFESTYLES.** Carole Martz, RN, MS, APN, AOCN®, Highland Park Hospital, Highland Park, IL; Carol Rosenberg, MD, FACP, NorthShore University HealthSystem, Highland Park, IL

Over a quarter of all cancer survivors are women with a history of breast cancer. As persons surviving cancer live longer, the impact of lifestyle choices become more important. The adoption of a healthy lifestyle following breast cancer treatment has been shown in numerous studies to lead to improved outcomes.

The staff of the Living in the Future (LIFE) Cancer Survivorship Program developed and implemented a program to address the educational needs of their healthcare system's breast cancer survivors concerning the importance of a healthy lifestyle choices.

The staff of the LIFE Program at NorthShore University HealthSystem in Highland Park, IL, implemented an educational seminar entitled "Eat to Beat Malignancy and Walk Away From Cancer." In this seminar an overview of the benefits of a healthy lifestyle were highlighted in ways that were both meaningful and memorable. Strategies to encourage the breast cancer survivor to eat healthier and become more physically active were incorporated along with the other important lifestyle behaviors that can have a positive impact on health. The program was promoted both institutionally and through our local Cancer Wellness Center and the Illinois Division American Cancer Society.

To date 300+ breast cancer survivors have attended the "Eat to Beat Malignancy and Walk Away From Cancer" seminar. Over 97% of the participants felt that the presentation helped them make healthier lifestyle decisions. Outcomes on weight loss and increases in physical activity achieved are pending.

Breast cancer survivors must be educated on how their lifestyle choices can impact their risk for recurrence, other chronic



diseases and second malignancies. Frequently this information is eye-opening and has the potential to be life-altering. Nurses are seen as trusted healthcare providers and must take the lead in educating patients in all practice settings.

### 3832

**AVERAGE DISCHARGE TIME AND LENGTH OF STAY: CAN THE ONCOLOGY NURSE HELP?** Vlasta Aubrecht, RN, BSN, U. T. M. D. Anderson Cancer Center, Houston, TX; Hyacinth Gordon, RN, MSN, OCN®, CRRN, U. T. M. D. Anderson Cancer Center, Houston, TX

Oncology patients present with multiple stressors with regard to diagnosis, interventions, and continued treatment during their hospital stay and after discharge from the hospital. Oncology nurses are required to transition patients "earlier" from hospitals to home. As a result, patients' discharge needs have increased requiring a coordinated interdisciplinary discharge process. In order to address the need for a coordinated discharge process, at a cancer center, the discharge nurse role was created. Discharge nurses are charged with the important responsibility of coordinating the discharge process and assisting patients as they transition along the care continuum efficiently and effectively from the hospital to home.

A quality improvement evaluation was implemented on our busy 32 bed surgical urology and orthopedic unit to determine if the discharge nurse role would improve average discharge time, length of stay, and patients' satisfaction with going home.

Discharging patients in a timely manner involves highly collaborative relationships between members of the interdisciplinary healthcare team. Strategies included identification of physician champions, education of staff, daily rounds with physicians and case managers, awarding certificates of achievement to nurses who discharged patients prior to designated discharge time, and increased patient involvement in discharge planning.

Institutional records reveal that our average discharge time and length of stay have improved. NRC Picker patient satisfaction survey scores reveal fluctuations for satisfaction with going home.

Various factors require nurses to discharge surgical urology and orthopedic oncology patients quicker from the hospital setting. Effective and efficient discharge involves the entire interdisciplinary team working together to obtain best patient care outcomes. Transitioning patients in a timely manner along the care continuum has invaluable benefits for everyone. Nurses are in a unique position to ensure that transition needs of patients are adequately addressed to facilitate smooth and timely discharges. The results of this quality improvement assessment appears to support the use of a discharge nurse to coordinate patient discharge reduces discharge time and length of stay and improves NRC Picker satisfaction survey scores on this surgical urology and orthopedic oncology unit.

### 3833

**IMPACT OF FATIGUE ON ROLE FUNCTIONING DURING RADIATION THERAPY.** Patricia Poirier, PhD, RN, AOCN®, University of Maine, Orono, ME

Side effects of treatment such as fatigue may impact patients' ability to maintain their usual activities, including work, household chores, and social activities. Oncology nurses are in a unique position to design interventions to help patients maintain those activities at greatest risk for disruption.

A priority topic of the ONS is to maintain or promote physical function, functional status, or functional ability of individuals who receive cancer treatment. A research recommendation is to identify disease or treatment-related correlates of changes in physical functioning prior to effectively designing and implementing interventions. The purpose of the current study was to identify the impact of one treatment-related correlate, fatigue, on the ability of patients to carry out specific activities during radiation therapy.

The role performance mode of the Roy Adaptation Model guided the selection of items to be analyzed and the grouping of activities into primary, secondary, and tertiary roles.

A secondary analysis was conducted on data collected from seventy-seven participants recruited from one community hospital radiation therapy department. Data had been collected prospectively at baseline, weekly during treatment, and at the end of treatment. Individual items from two well-established fatigue instruments, the revised Piper Fatigue Scale and the Brief Fatigue Inventory, that were related to activities of daily living were analyzed. These items were grouped into primary (basic activities of daily living such as walking and general activity), secondary (work and school activities) and tertiary (socialization with family and friends) roles. Paired t-tests were used to test for differences in performance of each role at each measurement point.

Fatigue impacted functioning in all three roles although the impact was minimal. There was greater disruption in secondary roles than in primary or tertiary roles. There was a statistically significant difference in functioning in all roles between baseline and the end of treatment.

Patients continued to maintain their basic activities of daily living and tertiary roles such as socializing with friends. Patients had greater difficulty maintaining work, both in and out of the home, and school activities. Future research where performance of specific activities is the primary outcome of interest is indicated.

### 3834

**NURSING IMPLICATIONS FOR THE PATIENT UNDERGOING HEMIPELVECTOMY: A CASE STUDY FOR NURSING GRAND ROUNDS.** Silvestina DeCoteau, RN, MSN, NEA, BC, MD Anderson Cancer Center, Houston, TX; Jeanine Hanohano, RN, BSN, MD Anderson Cancer Center, Houston, TX; Jalen Bartek, RN, BSN, MD Anderson Cancer Center, Houston, TX; Rosanne Arlington, RN, MSN, CNS, ONC-C, CPN, MD Anderson Cancer Center, Houston, TX; Betty Hunter, RN, BSN, MA, OCN®, MD Anderson Cancer Center, Houston, TX; Hyacinth Gordon, RN, MSN, OCN®, CRRN, MD Anderson Cancer Center, Houston, TX

Hemipelvectomy (HP) involves the unilateral surgical amputation of the pelvis, the innominate bone and the leg. HP remains the rarest of lower extremity amputations and is considered the best form of treatment for high grade sarcomas. Patients undergoing HP face seemingly insurmountable psychological and physical stressors associated with the loss of limb and extensive rehabilitation necessary after surgery. These patients require extensive physical, psychological and psychosocial management pre operatively, post operatively, and after discharge from the hospital. The nurse's role is critical to ensure positive patient outcomes, successful transition from inpatient to outpatient care, and return to the community.

The purpose is to educate the nursing staff about the physical and psychosocial management of a patient diagnosed with osteosarcoma and resultant HP, and to provide the patient perspective of which nursing interactions/interventions are beneficial, and which aspects of care could be improved.

In the surgical unit of a large comprehensive cancer hospital nurses noted a significant number of patients undergoing HP. Nurses convened a group to identify ways to increase their knowledge regarding sarcoma and HP. Nurses followed a patient from admission through post discharge follow-up visits and presented the findings at a unit-based Nursing Grand Rounds session. Nurses conducted literature review, and an orthopedic surgeon presented the physician perspective

Presentation evaluations revealed that 100% of the nursing staff found the information presented at the Grand Rounds very useful and educational. Attendees were able to follow the patient's journey from diagnosis of the disease through surgery and successful transition back to the community.

As front-line care providers nurses play a significant role in ensuring optimal patient outcome. It is critical that nurses are equipped with the knowledge to provide assessment, prompt interventions, and support to patients and families. The information obtained from this process can be used for future nursing research.

### DEVELOPMENT OF AN EVIDENCE-BASED MANAGEMENT GUIDELINE FOR THE USE OF PREMEDICATION FOR BLOOD PRODUCTS IN THE ONCOLOGY POPULATION.

Diane Llerandi, RN, AOCNS®, Memorial Sloan Kettering Cancer Center, New York, NY; Kathleen Schardien, RN, MSN, AOCN®, MSKCC, New York, NY; Jane Sallustro, RN, MPA, Memorial Sloan Kettering Cancer Center, New York, NY; Kathleen Staunton, RN, MSN, Memorial Sloan Kettering Cancer Center, New York, NY; Kathleen Choo, RN, JD, BSN, Memorial Sloan Kettering Cancer Center, New York, NY

The most common transfusion reactions are febrile non-hemolytic and allergic reactions, although rarely do they cause significant morbidity. In our institution we noted the practice of routinely ordering premedications particularly acetaminophen and diphenhydramine to prevent these reactions was LIP dependent. Various opinions/practices exist among nursing and medical staff based on prior clinical experience. Both medications are relatively inexpensive, but each can cause numerous side effects and in studies to date their ability to prevent transfusion reactions is questionable.

Having identified the need for a standardized approach for premedication for oncology patients receiving transfusions of packed red blood cells, platelets and fresh frozen plasma, our committee worked to develop an evidence-based guideline and define best practice for patients at our comprehensive cancer center.

An exhaustive literature search was undertaken, and systematic reviews and randomized controlled trials were reviewed. Experts in bone marrow transplantation, clinical laboratories and hematology were consulted, and clinical resources and guidelines from outside institutions and professional organizations such as the New York Blood Center were gathered.

Evidence suggests that although there is variation among institutions regarding premedication, the decision to premedicate patients must always be individualized to the patient. Acetaminophen and diphenhydramine are not without potential toxicity, and in studies we examined, they failed to consistently prevent reactions. Most transfusions reactions are mild and easily treated. Using the evidence, we developed a standard of care and revised the nursing procedure to reflect that premedications will no longer be given as a standard for all patients.

Education of inpatient LIPs and RNs was conducted both formally and informally. A flag system was added to the computerized ordering system highlighting the policy changes and requiring caregivers to order hypersensitivity medications in the event of a reaction. Currently, we are working with the ambulatory care areas to ensure compliance with recommendations and identify areas for further review.

This evidence-based project has helped nurses at our center provide patient care that meets current guidelines for best practice. Oncology nurses at other institutions can use this information to update their patient care standards and prevent unnecessary use of premedications in patients requiring transfusion.

### 3837

#### NANOTECHNOLOGY IN CANCER RESEARCH: A PHASE 1 CLINICAL TRIAL OF TNF-BOUND COLLOIDAL GOLD.

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The emergence of targeted therapy using nanotechnology has made its way into clinical trials. The goal of using nanotechnology in cancer treatment is to target malignant cells, while

preserving healthy cells, virtually eliminating toxicities while maximizing anti-tumor effects. In the 1980's Tumor Necrosis Factor (TNF) was given to patients; however Dose Limiting Toxicities (DLT) such as hypotension and death were noted. In the 1990's, research using TNF was revived for Isolated Limb Perfusion. Recently the concept of having a 'drug delivery' system to deliver the TNF to the targeted tumor tissue has been studied. In pre-clinical testing, TNF-bound colloidal gold trafficked preferentially to tumor tissue while demonstrating anti-tumor effects. This abstract highlights testing of TNF-bound colloidal gold (CYT-6091) in humans.

The primary objective of the Phase 1 clinical trial was to evaluate the maximum tolerated dose (MTD) of CYT-6091 in patients with advanced solid organ malignancies. Secondary objectives included: evaluating disease response, and trafficking of gold nanoparticles to tumor tissue.

Traditional Phase 1 study design was used: dose escalation with doses ranging from 50-600mcg/m<sup>2</sup>. The patients were dosed on day 0 and 14. Adverse events were monitored throughout the trial. Blood was drawn for pharmacokinetic studies, chemistry panels, and blood counts at specified time intervals. Biopsies were taken from tumor and healthy tissue 24 hours after the first injection of CYT-6091 for evaluation of gold content using Electron Microscopy.

Twenty-nine patients, (eleven males, eighteen females) were dosed with CYT-6091. During the trial, no DLT occurred indicating that TNF-bound colloidal gold is tolerated at doses 3-times greater than TNF. Most common adverse events included: lymphopenia and electrolyte imbalances. All adverse events were reversible within several days. Twenty-eight patients were evaluated for a response using the Response Evaluation Criteria for Solid Tumors (RECIST). One patient had a partial response and three patients had stable disease. Gold nanoparticles were present in greater quantities in tumor tissue confirming the affinity to tumor tissue. The breakthrough of nanotechnology will revolutionize cancer therapies. It is vital nurses understand how this cutting-edge technology will directly impact Oncology patients.

**Funding Source:** CytImmune Sciences Incorporated

### 3842

#### AN EDUCATIONAL CAMPAIGN TO IMPROVE EVIDENCE-BASED PRACTICE KNOWLEDGE, ATTITUDES AND BEHAVIORS: A PILOT STUDY.

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Evidence-based practice (EBP) is the integration of the best available evidence, nursing expertise, and patient values. The scope of EBP among oncology nurses and the elements for successful EBP education are not known. Barriers to EBP may be related to attitudes or deficits in knowledge and/or skills. A pilot study to measure knowledge, attitudes, and behaviors of oncology nurses regarding EBP and to evaluate effectiveness and feasibility of an educational campaign is proposed.

The 2005-2009 ONS Research Agenda names EBP within its Top Ten priorities. The study purposes are: 1) To describe the knowledge, attitudes, and behaviors of a sample of oncology nurses regarding EBP; 2) To measure the effectiveness and feasibility of an educational campaign to improve the knowledge, attitudes, and behaviors of oncology nurses regarding EBP.

Khan and Coomarasamy proposed a hierarchy of effective strategies to acquire competence in EBP. Level 1, the most effective, states that EBP teaching must be interactive, integrative, and reflective of practice. Integration can be achieved through a thematic approach or campaign. Based on the literature, a multifaceted, theme-based educational intervention will be provided using small group, interactive methods.

The design is a pre-test-post-test one-group quasi experimental descriptive study. A convenience sample of 115 registered nurses from two inpatient units and one outpatient clinic at our Cancer Center will be recruited.

The Upton & Upton questionnaire, Clinical Effectiveness and Evidence-Based Practice Questionnaire, will be administered pre- and post-intervention.

The 7-month intervention will be based on an EBP theme and include standard and novel methods for educating nurses. The content of the intervention will be tailored according to pre-intervention questionnaire results.

For Purpose 1, results of the questionnaire will be analyzed using summary statistics. For Purpose 2, pre-test means and post-test means, along with standard deviations, will be analyzed using comparative statistics. To assess feasibility, information regarding participation rates and confounding variables will be obtained.

The study has been approved by our institution's Scientific Review Committee and is pending expedited approval from the IRB. Preliminary results will be presented. A detailed description of the campaign and novel EBP theme will be provided.

### 3844

**DEVELOPMENT OF A CANCER SURVIVORSHIP CARE PLAN: A SUCCESSFUL MULTIDISCIPLINARY TEAM PROJECT.** Carolyn Weaver, RN, MSN, AOCN®, Fox Chase Cancer Center, Philadelphia, PA

In 2005 the Institute of Medicine (IOM) recommended that each cancer patient receive a cancer survivorship care plan. With the increasing number of cancer survivors, it is more difficult to provide standard follow up care and give proper attention to survivorship issues. Some patients follow-up with their primary care providers, while others may be seen in a Cancer Survivorship Clinic at the facility they were treated. Oncology Nurse Practitioners (NPs) are often the care providers in a Survivorship Clinic. The NPs, as well as oncology nurses who work collaboratively with physicians, are key contributors to the development and implementation of a survivorship care plan.

The purpose of the project was to develop a care plan that would meet the needs of the patient, primary health care provider, and oncology team. This care plan would have several components including a treatment summary, timing and content of follow-up visits, tips for a healthy lifestyle and preventing recurrent or new cancers, and availability of support services. The rationale is to help improve care and quality of life for cancer survivors and better coordinate services between specialists and primary care providers.

A task force generated from the nursing-led multidisciplinary Patient Education Committee was charged with addressing the IOM's recommendation. Membership consisted of the Patient Education Coordinator, NPs, Medical Oncologist, inpatient/outpatient Oncology RNs, Physician's Assistant, Project Manager from Informational Technology, Cancer Survivor, and Primary Care Physicians. After a review of existing survivorship care plans, we developed our own. The group met every 2-4 weeks to achieve this goal. We received support from leaders who are moving the implementation of the plan forward.

The "final" draft of the care plan did include the aforementioned components. After initial feedback from nurses, physicians, and patients, changes were made. The care plan will be piloted in the nurse-run Breast Cancer Survivorship Clinic; thereafter additional changes will be made.

Since oncology nurses focus on quality of life issues, they should be involved in the development of a survivorship care plan. They also have a key role in updating the care plan and educating others about its use.

### 3845

**END OF LIFE TASK FORCE FOR THE BONE MARROW TRANSPLANT (BMT) PROGRAM.** Lisa Privitere, RN, OCN®, Roswell Park Cancer Institute, Buffalo, NY; Rose Kumpf, RN,

Roswell Park Cancer Institute, Buffalo, NY; Lise Hernandez, RN, BSN, CHTC, CCRC, Roswell Park Cancer Institute, Buffalo, NY; Joyce Yasko, PhD, Roswell Park Cancer Institute, Buffalo, NY; Susan Spinuzza, RN, Roswell Park Cancer Institute, Buffalo, NY

The Blood and Marrow Program (BMT) provide care to a high-risk patient population over protracted periods of time. The Primary Care Team develops close therapeutic relationships with the patients as well as their families. When poor outcomes occur this has a significant and negative impact on the Primary Care Team most particularly the staff nurses who are present in the patient care environment around the clock. Very often the patients and their families depend on the staff nurses for ongoing support and guidance: this is not without a toll on the nurses.

The BMT Program Administrators identified a need to address the significant effects of poor patient outcomes, most particularly noted when there was a trend in treating a younger patient population. The Task Force was developed as a means of addressing this issue. The intent was to assist members of the Team in developing healthy coping skills in response to difficult patient care scenarios. In addition, the secondary goal was to get the Team to have regular discussions about high risk patients. A third goal was to develop the skill of knowing when to initiate palliative treatment versus extraordinary treatment when the patient was dying.

The Task Force meets monthly in an open structure allowing for any member of the Team to attend. The Team is free to discuss the care provided to patients and the appropriateness of active treatment in the light of potential futile outcomes. The Task Force is sensitive and responsive to the many emotions and feelings of the clinical team members during these meetings.

The Task Force has held ongoing discussions for several months and positive feedback from the nursing staff has been received. An evaluation of turnover rates for staff nurses is proposed for the next phase of this program.

Due to the high level of participation by the Team in the Task Force meetings it is apparent that this was a much needed intervention. The physician colleagues on the team have developed a greater appreciation for the impact of caring for high risk patients.

### 3848

**GUIDELINES FOR OBTAINING BUSULFAN LEVELS.** Lisa Privitere, RN, OCN®, Roswell Park Cancer Institute, Buffalo, NY; Rose Kumpf, RN, Roswell Park Cancer Institute, Buffalo, NY; Kathy West, PharmD, Roswell Park Cancer Institute, Buffalo, NY

Busulfan is a Chemotherapy medication that is administered as part of preparative regimen for Blood and Marrow Transplants. The only way for the physician to determine how well the medication was being metabolized by the body was to obtain many serum samples at different times after administration of the first prescribed Busulfan dose. The BMT Busulfan curves were evaluated for accuracy and found to be outside the normal curve outline.

As a result of the evaluation it was determined that a complete redesign of the Busulfan blood-draw tool was needed. In addition a further evaluation determined that the staff nurses could substantially improve their blood drawing techniques and practices through updated and revised educational measures and tools.

The Nurse Administrators for the BMT service identified this as a Quality Improvement (QI) project and developed a multifaceted remediation program to address the problems identified. In particular the blood draw tool was completely redesigned to address the correct time frames needed to achieve the requisite and projected Busulfan curve. Observations of the nurses as they administered the Busulfan and prepared for blood draws provided the platform for correction of their actions: coaching and guidance occurred at the time of actual performance. All nurses involved with the administration and monitoring levels of the drug went



through the remediation process: these included nurses from two inpatient clinical sites.

The results of subsequent Busulfan levels were well within the projected curve expectations and have remained 100% compliant since the implementation of the remediation program. The monitoring process remains a standard of the QI program for the BMT unit. All results are reviewed by the Pharm-D and the Physician and drug dosing is effectively adjusted for maximum patient outcome.

The blood levels obtained since the implementation of this program are now deemed as reliable. A surprising result was noted that the pediatric population metabolizes Busulfan much faster than do adults: thus they require a larger dose than would be expected according to their weight. The competent techniques and practices of staff nurses continue to be monitored.

### 3851

**DEVELOPMENT OF AN AMBULATORY NURSING NEWSLETTER: A MECHANISM TO ENHANCE COMMUNICATION.** Roberta Baron, RN, MSN, AOCN®, Memorial Sloan-Kettering Cancer Center, New York, NY; Nancy Houlihan, RN, MA, AOCN®, Memorial Sloan-Kettering Cancer Center, New York, NY

Maintaining open communication among nurses and keeping them apprised of new and important information can be very challenging, particularly in large health care delivery systems. It is especially challenging at our comprehensive cancer center which houses nurses at multiple ambulatory sites both within and outside the New York City area.

The Ambulatory Nursing Newsletter was created to provide a forum for sharing knowledge, professional interests and accomplishments with our ambulatory nursing colleagues across all settings.

A newsletter task force was formed in April, 2007 which consisted of volunteers from our Ambulatory Education and Professional Development Council. Task force members worked effectively as a team to brainstorm topic ideas and obtain and organize content. They also had the opportunity to develop skills in writing and editing articles under the guidance of more senior task force members. General ambulatory nursing staff were encouraged to submit topic ideas and articles and also benefitted from working with task force members on their work. Additionally, members of our Recruitment, Retention and Recognition council participated by highlighting the professional and personal accomplishments of our nurses.

The first issue was published in August, 2007 with quarterly issues published thereafter.

Regular columns include an educational, clinical and research component; a feature article on a person or clinical area of note; quarterly tips from our medical librarian; updates from our informatics task force; meeting updates from our four ambulatory nursing councils; and staff accomplishments.

An online survey was distributed to all ambulatory care nurses to evaluate if the newsletter was meeting its goals. Approximately 375 nurses were surveyed with 205 responses. Of the 179 responders that indicated they read the newsletter, 97% believed that the newsletter met the goal of increasing communication.

Responses to other questions were helpful in identifying preferences and eliciting new ideas.

The newsletter successfully met its goal of increasing communication among ambulatory nurses as evidenced by the overwhelmingly positive feedback from the survey. Secondary benefits emerged with regard to professional development. The newsletter has helped foster skills among staff with regard to writing, editing and teamwork.

### 3852

**IMPROVING THE FAMILY EXPERIENCE: EXPANSION OF THE PERIOPERATIVE NURSE LIAISON PROGRAM.** Maureen F. Cunningham, RN, MSN, OCN®, Memorial Sloan-Kettering

Cancer Center, New York, NY; Cathy Hanson-Heath, RN, MSN, CNSC, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY; Linda M. Muller, RN, MA, Memorial Sloan-Kettering Cancer Center, New York, NY

Operating room (OR) nurses at this comprehensive cancer center recognized the need for improved communication between waiting families and the surgical team. In 1981 a family-focused program in which a Perioperative Clinical Nurse Specialist (PCNS) provided clinical information and psychosocial support during surgery was created. In a satisfaction survey PCNS services were the highest-rated amenity for waiting families. However, inconsistencies in the delivery of untoward postoperative findings existed, largely due to the location of waiting rooms in respect to the OR and limited space for private consultation. The planned reconstruction of perioperative space afforded us the opportunity to redesign our program.

Our purpose was to redesign and expand our program by identifying and resolving inconsistencies to improve communication services. Face-to-face or telephone interaction with 100% of families became our new program goal.

The redesign of the program included multiple initiatives. To provide consistency in our practice, we developed workflow/practice standards and role competencies. Family communication was maximized by a wireless pager system and cell phones. Education of OR nurses and surgeons emphasized early identification of PCNS consults requiring collaboration. The construction of private consultation rooms adjoining the OR facilitated PCNS collaboration with families receiving untoward news. Expansion of services to ambulatory surgical families required an additional PCNS to accommodate the volume.

Changes to our program have produced early success. Current data reveal an increase in family interactions and collaborative consults. A 2009 surgeon satisfaction survey is being compared with a previous survey.

Identifying our program goal to reach every family and to consistently provide a greater level of sensitivity and support to those families receiving untoward news only improves family outcomes. The presentation will include workflow/practice standards and competencies, a description of the new collaborative model of perioperative care delivery and the expanded PCNS consultation role and current data.

### 3855

**WHO WILL CARE FOR ME? RECRUITMENT AND RETENTION STRATEGIES FOR AN INPATIENT ONCOLOGY UNIT.** Betsy Collins, RN, MSN, AOCN®, Lancaster General Hospital, Lancaster, PA

In light of today's nursing shortage, competing opportunities for the current nurses and the high cost of turnover, it is imperative that we as oncology nursing leadership place recruitment and retention as one of our top priorities.

Recruitment and retention strategies must be numerous and creative in order to be effective as "one size does not fit all". Including current staff in these strategies is key.

Retention of the staff once recruited is necessary to maintain stable, knowledgeable staff to provide the very best care possible to our patients, and to be financially responsible to the institution.

Recruitment begins with high school students to allow for shadowing experiences and to "brag" about what we do daily. All students (PtCA, RN, LPN) are welcomed and encouraged to consider oncology nursing as a specialty.

Retention begins at the time of hire and continues through their career with education, support and strong support of oncology nursing as a specialty.

Success of the strategies will be measured by turnover rate as well as staff satisfaction. Each spring, staff participates in an employee opinion survey that measures staff satisfaction as well as staff engagement.

In the rapidly changing world of oncology nursing, we must find ways to maintain stable, knowledgeable staff. To have a constant turnover of staff is frustrating to all involved and contributes to decreased patient satisfaction, staff satisfaction and increased cost.

### 3857

**HAND HYGIENE: A NEW APPROACH FOR IMPROVING COMPLIANCE.** Janine Kennedy, RN, MA, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY; Catherine Licitra, RN, MA, Memorial Sloan-Kettering Cancer Center, New York, NY; Brian Hiestand, RN, Memorial Sloan-Kettering Cancer Center, New York, NY; Michelle Karcic, RN, Memorial Sloan-Kettering Cancer Center, New York, NY; Diana Geary, PCT, Memorial Sloan-Kettering Cancer Center, New York, NY; Manuel Guerrero, PCT, Memorial Sloan-Kettering Cancer Center, New York, NY

Proper hand hygiene is the cornerstone of patient safety. The National Patient Safety Goals issued by the Joint Commission state that healthcare institutions must comply with hand hygiene guidelines from either the World Health Organization (WHO) or Centers for Disease Control and Prevention. At the Urgent Care Center (UCC) of a comprehensive cancer center, we have monitored hand hygiene compliance, with poor results. With a small sample size of only 20-30 patient encounters, compliance rates ranged from 20-40%.

A multi-disciplinary group convened to implement a rapid result performance improvement project to address compliance issues and incorporate the WHO guidelines into practice. Members of this group included UCC clinical leadership, UCC nurses, UCC patient care technicians, Infection Control, Quality Assurance, Nursing Education, and Building Services.

The group met weekly, comparing current workflows with proposed workflows that adapted the WHO guidelines, identifying environmental barriers, and brainstorming solutions. Identified environmental solutions which were implemented included the placement of glove boxes closer to the patient, change of hand sanitizer product, increased number of hand sanitizer stations within the patient care areas and throughout the unit, and individual hand sanitizers for staff. Educational sessions were conducted, which included a review of current compliance, WHO guidelines, workflow revisions, case scenarios, and return demonstration of hand hygiene competency.

After implementation, monitoring of compliance began. The monitoring was conducted by 5 trained staff members, with actual observations of hand hygiene practices. The staff members observed entire patient encounters with the RN or PCT, and stopped them in their care when any breach of hand hygiene was about to occur. This allowed for staff members to learn in the moment, as well as protect the patient. In the first month after implementation we observed 391 patient encounters with a compliance rate of 96%. We have collected data quarterly, with an average compliance rate of 97%.

This success of this rapid result project was due to the interventions proposed being clinician driven. The ongoing analysis of data will allow us to continuously assess our staff's compliance and identify any causative agents that may interfere with the proper hand hygiene process.

### 3858

**DEVELOPMENT OF AN ORIENTATION PROGRAM IN A BMT UNIT: INTEGRATING A LARGE GROUP OF GNS WHILE RETAINING EXISTING STAFF NURSES.** Rose Kumpf, RN, OCN®, Roswell Park Cancer Institute, Buffalo, NY; Lisa Privitere, RN, Roswell Park Cancer Institute, Buffalo, NY; Cindy Latimore, RN, Roswell Park Cancer Institute, Buffalo, NY; Bonny Mombrea, RN, Roswell Park Cancer Institute, Buffalo, NY

The enculturation of graduate nurses to a high acuity patient care setting provided the Nurse Administrators of this eighteen

bed Blood and Marrow Transplant (BMT) unit with significant challenges. Sixteen nurses were hired over a three-month period. Fourteen of the sixteen nurses that were hired were unlicensed graduate nurses. These sixteen new nurses were assigned to work with the twenty-five experienced nurses who remained on the unit.

Significant concerns were raised about the ability of the BMT program and the Department of Nursing to support the differing needs of the new and experienced nurses while maintaining quality patient care.

A new approach to the orientation and education for the new staff nurses was identified. After completing the general nursing orientation, these nurses were assigned to attend additional classes specific to the BMT curriculum. Mini education sessions were conducted by the Assistant Nurse Administrator. These modules involved a short lecture in which some return demonstrations were required. Lists of medications were compiled, categorized, and distributed to each nurse and each drug was reviewed in the didactic sessions. Policies and SOPs were presented, reviewed and discussed in detail. Patient care procedures were extensively demonstrated and return demonstrations critiqued. This process provided support to the experienced nurses who had been continuously precepting new staff nurses. It gave the new nurses essential knowledge and skills to engage in direct patient care. It also provides a venue to assure that consistent and correct information was being relayed.

The graduate nurses were immediately able to demonstrate the necessary skills that were applicable to their scope of practice with confidence and the ability to advance to more complex patient care. The preceptors appreciated the ability to work with the new nurses on direct patient care rather than the fundamentals.

A subsequent evaluation of the program indicated that the new nurses experienced a greater confidence in their initial skills as the experienced nurses identified a more gratifying preceptor experience. As a result of this program a significant increase in the number of nurses retained was realized.

### 3860

**IMPROVING OUTCOMES OF A NURSING ORIENTATION PROGRAM ON A HEMATOLOGY ONCOLOGY TRANSPLANT UNIT USING AN EVIDENCE BASED PRACTICE MODEL TO INCREASE PRECEPTOR SUPPORT.** Kristine Kauflin, RN, BSN, OCN®, National Institutes of Health, Bethesda, MD; Kathleen Castro, RN, MSN, AOCN®, National Institutes of Health, Bethesda, MD; Rebecca Babb, RN, CPON®, OCN®, National Institutes of Maryland, Bethesda, MD; Ashley Carpenter, RN, BSN, OCN®, National Institutes of Health, Bethesda, MD

Increasing patient acuity and complexity along with the current nursing shortage have led to difficulty recruiting and retaining oncology nurses. Due to the complex treatment and symptom management regimens used in oncology, nursing orientation programs play a critical role in training and retaining oncology nursing professionals. The key element of a successful orientation program is a willing preceptor with oncology nursing expertise. The effort to educate new nurses, however, is complicated when experienced oncology nurses are not qualified as preceptors or lack interest in the process.

Our purpose is to describe how an evidence based practice model was used to improve preceptor support and increase the number of preceptors on a hematology oncology transplant unit.

A literature search was performed of nursing and medical databases (example: PubMed, Cinahl). The current literature focused on the importance of the preceptor role in the successful integration of the new employee and observed that precepting is time consuming, stressful and lacking rewards. Little attention has been given to strategies that increase the number of preceptors. Our team held four journal clubs with oncology preceptors to develop an understanding of their perceptions of the role. Feedback showed that preceptors valued the responsibility but felt they were given heavier assignments and had little time to

teach or complete paperwork. They also sensed that unit leadership was disconnected from the orientation process. To improve preceptor support, we modified our program by implementing and including unit leadership at bimonthly meetings in which the preceptor and new nurse identified goals and barriers. Preceptors also completed a tool to evaluate orientation progress.

Successful outcomes that were noted as a result of more consistent preceptor support included an increase in the number of qualified preceptors, quicker identification of problem areas, and a 70% improvement in completion of the competency process utilized by the unit to validate nursing skills.

Recruiting and retaining nurses in the oncology nursing profession is essential to improve patient outcomes and reduce training costs. Developing a structured preceptor support program is a manageable way to improve the quality of oncology nursing care.

### 3863

**A CASE STUDY OF SYMPTOMS EXPERIENCED FOLLOWING THE ADMINISTRATION OF ERLOTINIB.** Kyra Whitmer, PhD, RN, University of Cincinnati, Cincinnati, OH; Brian Braford, PhD, BCC Group, Cincinnati, OH; Ruth Gholz, RN, MS, AOCN®, Veterans Administration Medical Center, Cincinnati, OH; John Pancoast, MD, Veterans Administration Medical Center, Cincinnati, OH; David Sullivan, BCC Group, Cincinnati, OH; Marilyn Sommers, PhD, RN, FAAN, University of Pennsylvania, Philadelphia, PA

Eighty percent of those receiving Erlotinib for treatment of cancer will develop a facial rash that is distressing both physically and psychosocially. This rash has been described but not quantified nor have the accompanying symptoms been quantified.

To develop measurement strategies to quantify the degree of skin involvement through digital image analysis and to quantify accompanying non-dermatologic symptoms. This study addresses the ONS Research Agenda, cancer symptoms and their management.

The conceptual framework underpinning this research is based on the physics of light and on the  $L^*a^*b^*$  color space in particular. Armstrong's model of Symptom Experience provided an explanation for antecedents to the perception of symptoms, followed by consequences.

Digital images were corrected for brightness and white balance before transformation into luminance and chrominance representation by converting them to the  $L^*a^*b^*$  color space ( $L^*$  - lightness-darkness;  $a^*$  - redness-greenness;  $b^*$  - yellowness-blueness). The  $a^*$  component image was saved as a grayscale image. We used ImageJ to obtain a histogram of erythema and the intensity of the erythema. The following self reported questionnaires were used to quantify accompanying symptoms, their intensity, distress and impact: Skin Questionnaire, Symptom Assessment Scale, Distress Thermometer, and FACT-G. Data were collected prior to the initiation of Traceva and weekly until the rash stabilized.

Rash erythema was quantified weekly for 8 weeks. Accompanying symptoms had an interdependent pattern. Nursing interventions, including the use of moisturizers, Diphenhydramine and Minocycline, lessened the distress experienced. When both patient and caregiver anticipate the symptom experience, it can be managed so that the therapeutic effect of Erlotinib can occur.

**Funding Source:** Supported by ONF Symptom Management Research Grant, 2005

### 3864

**WELLNESS COACHING AND CANCER CARE.** Cynthia Waddington, RN, MSN, AOCN®, Christian Care Health System, Newark, DE; Michelle Bailiff, LCSW, Christiana Care Health System, Newark, DE

It is well established that cancer risk, survival, and recurrence can be attributed to lifestyle practices such as diet, physical activity, weight, and tobacco product exposure. These practices also

impact the management of cancer treatment and resulting side effects. Changing lifestyle practices is a dynamic and complicated process. Nurses in various settings are in a position to coach patients in making healthy, lasting, lifestyle change.

The purpose of this poster is to describe the wellness coaching process as used in the care of cancer patients, survivors, caregivers and those at high risk for cancer.

Wellness coaches work with patients in weight management, physical activity, nutrition, stress management, health, and life issues which impact wellness.

Coaches blend proven behavior change techniques with interventions intended to inspire personal growth. The use of inquiry, reflection and mindful listening leads the patient to significant personal discovery which results in increased insight and awareness. This awareness guides patients in making sustainable changes in self-understanding, self-concept, and behavior while reaching behavioral and outcome goals. Regular (usually weekly) face-to-face or telephone coaching sessions take place over a minimum of three months. The first session includes development of a wellness vision, identification of motivators, obstacles and strategies to overcome obstacles, and three month goals. Following sessions include a patient review of their experience related to their goals, processing of obstacles and exploring additional areas of interest. Weekly goals (leading to attainment of three month goals) are made at each session.

Outcome measurements completed after three months of coaching include the categories of wellness addressed and the percent of weekly and three month goals attained. Results will provide a foundation for which continuing nursing education is offered as well as a basis for nursing-collaborative directed patient programs.

Nurses may practice in the role of a wellness coach or simply incorporate coaching skills to support the change process in their current practice with individuals, groups, or topic specific programs. Community and worksite health promotion programs and health insurance providers are additional opportunities to utilize nurse coaching as a structure to support adherence to positive health practices.

### 3867

**NEW AGENT PRALATREXATE: NURSING MANAGEMENT AND CONSIDERATIONS ON T CELL LYMPHOMA PATIENTS RECEIVING PRALATREXATE.** Maria Guerrero, RN, MSN, ANP-C, AOCNP®, MD Anderson Cancer Center, Houston, TX; Judy Loggins-Coffman, RN, MD Anderson Cancer Center, Houston, TX

T cell Lymphoma represents a group of malignancies for which there has been little progress in treatment over the past years. T cell Lymphoma not only reveals a prognosis that may be worse than B cell Lymphoma, but T cell is a rare cancer (representing 10-15% of malignant lymphoma) little consensus can be established due to difficulties in finding enough patients to enroll for appropriate clinical studies.

For this reason there is a strong demand to develop drugs and treatment regimens for T cell Lymphoma. In this poster we would like to discuss the new emerging drug Pralatrexate for the treatment of T Cell Lymphoma.

The purpose of this poster is to provide an educational tool that the oncology nurse briefly discuss new drug pralatrexate, its role in T cell lymphoma, side effects associated with this drug, as well as nursing considerations and

1. Discuss the role of Pralatrexate in the treatment of T Cell Lymphoma
2. Common side effects associated with Pralatrexate
3. Nursing considerations and management for patients on Pralatrexate
4. Discussion of a case study.

Evaluation of this poster presentation would be that oncology nurses would have a better understanding of the use of prale-



trexate in T cell Lymphoma population. Nurses will be able to identify side effects of pralatrexate and the need to initiate nursing intervention or need for medical attention from physician or midlevel practitioner.

Nurses play an important role assessment and management of the possible side effects and complications associated with treatment with Pralatrexate. This poster should serve as a brief review on major highlight points that nurses need to consider for T Cell patient receiving pralatrexate as single agent or in combination therapy.

### 3869

**IMPLEMENTING A 12-MONTH TEAM MANAGEMENT SKILLS TRAINING IN A COMPREHENSIVE CANCER CENTER.** Vilma Raettig, RN, MSN, MBA, Aptium Oncology, Palm Springs, CA; Anita Chatigny, PhD, Aptium Oncology, Palm Springs, CA; Mercy Perez, MSW, Aptium Oncology, Palm Springs, CA; Oliva Macabale, RN, Aptium Oncology, Palm Springs, CA

The Comprehensive Cancer Center at Desert Regional Medical Center is the premier outpatient Cancer Center in the Coachella Valley. The 125 staff members and physicians enjoy a high degree of patient satisfaction and an excellent reputation for patient care. The new DCO went about assessing the status of the healing environment by meeting with each staff member and asking a series of questions including their rating of the team's trust, communication, listening, and conflict resolution ability. It became evident that there was opportunity for Team skills Development to meet the Joint Commission's Culture of Safety requirements beginning 1/1/09.

The goals of the training were to help improve the work environment, to create a more healing environment for caregivers and patients and to preserve the focus on excellence in patient care. Another goal was to empower staff to be able to engage in direct, honest and open communication and manage conflicts constructively.

Team skill Development program classes were held once a month in 2008, and about 70 staff attended consistently. Managers learned to coach staff on each topic to facilitate the practice of behaviors learned. Role playing, discussion, and power point presentations were the primary teaching methods. Monthly meetings continue to monitor the application of principles learned in day to day interactions.

Program evaluations were done in July and December. Leadership observations indicate that the morale has improved and that staff is able to communicate with patients, family members, physicians and co-workers more effectively. Work ethic has improved and staff conflict has significantly decreased. Patient satisfaction increased from 88% to 92% in 2008.

A highly Functioning Team is one in which there is accountability and diligence to ensure dignity and respect in day to day interactions. Leadership sets clear expectations, monitors the environment, and leads by example. We believe that this environment empowers all staff to advocate for themselves and for patients thereby creating a Culture of Safety.

### 3870

**APPRAISING THE EVIDENCE RELATED TO AVOIDANCE OF THE USE OF LOTIONS OR TOPICAL AGENTS PRIOR TO RADIATION THERAPY.** Patricia Bieck, RN, BSN, OCN®, University of Rochester, Rochester, NY; Shannon Phillips, MS, RN, AOCNS®, University of Rochester, Rochester, NY

The goals of radiation oncology nursing care include maintaining skin integrity, promoting comfort and preventing infection. Current practice involves instructing patients to avoid applying lotions or topical agents to the skin within the radiation treatment field for four hours prior to treatment. This practice is based on a belief that the topical agents increase the risk and severity of skin reactions, including erythema and dry desquamation, through a

"bolus" effect of radiation resulting from increased skin thickness. These severe skin reactions often lead to skin breakdown, infection, pain, and treatment delays.

The purpose of this project was to determine whether the rationale for avoiding the use of lotions or topical agents for four hours prior to radiation therapy is supported by research evidence.

A comprehensive literature review was conducted to determine the current standards of care and to identify research findings to support or refute the practice. Interviews with clinical experts, benchmarking with international cancer centers, and consultation with professional nursing organizations also was done.

Although limited, available research refutes the current practice of avoiding the use of lotions or topical agents prior to radiation therapy. Results of benchmarking revealed wide variations in practice, but clinical experts stated that patients may use lotions or topical agents prior to radiation therapy without risk of a "bolus" effect. The Oncology Nursing Society (ONS) has no published guidelines specific to this issue, and the ONS Radiation Therapy Special Interest Group acknowledges that clinical practice varies across institutions and additional research is needed. The public health educator at the National Cancer Institute (NCI) was unable to provide specific evidence-based references for their patient education material, but stated that the materials are based on existing NCI sources, nursing text books, and input from clinical experts.

The limited evidence in the literature and the absence of confirmation of evidence to support NCI standards suggests that further research is warranted. As a direct result of the questions raised during this project, our facility has developed standardized skin care guidelines and has revised patient education materials.

### 3871

**FOX CHASE CANCER CENTER PARTNERS DEVELOPS ORIENTATION MANUAL FOR BREAST CARE NURSE NAVIGATORS.**

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The development and implementation of Multidisciplinary Disease Management Programs featuring Care Coordination are a goal of community based cancer programs. Care Coordination and Patient Navigation have become a focus for the National Quality Forum and the National Breast Accreditation Program/American College of Surgeons for 2009.

Fox Chase Cancer Center Partners (FCCCP), a subsidiary of Fox Chase Cancer Center (FCCC), is a consortium of community hospitals working with an NCI academic cancer center. FCCCP Breast Care Coordinator/Navigator group has evolved from a small core group of six coordinators to twenty in four years. This group saw a need to provide nurses new to the role of coordinator/navigator with tools and resources to assist with transitioning from various practice backgrounds to the role of a nurse navigator. Building on the creativity and expertise of this group an orientation manual was developed to support role development and clinical care required for breast cancer patients along the continuum of care. In addition to this valuable tool, a formal preceptorship that provides a menu of clinical experiences has evolved.

The orientation manual was created in module format to allow the navigator to focus areas of most need. It was designed as annotated bibliographies including the most current literature searches and web sites. Prior to using the manual, the nurse navigator completes a needs assessment that provides an overview of gaps in knowledge and expertise. Additionally, new nurse navigators

spend time at FCCC as well as at FCCCP institutions shadowing seasoned breast care coordinators.

The orientation manual was piloted with three new nurse navigators over the course of 2008, and outcomes were reviewed via post needs assessment survey. Results indicated significant increase in understanding navigator role in breast cancer care. Next step will be conversion to web based CNE program that can be updated with current trends and evidenced based practice.

Oncology Nursing sets the tone for many new disease specific programs or centers of excellence. It is essential that we not only promote the development of nursing expertise but also provide the education, clinical competencies and resources to nurses as these new roles emerge.

### 3872

**ROUNDING FOR OUTCOMES: A PRACTICAL TOOL TO INCREASE PATIENT AND STAFF SATISFACTION.** Silvestina DeCoteau, RN, MSN, NEA, BC, MD Anderson Cancer Center, Houston, TX; Hyacinth Gordon, RN, MSN, OCN®, ORRN, MD Anderson Cancer Center, Houston, TX

Frontline managers are hard-pressed to meet the needs of patients and staff to ensure satisfaction. In his book, *Hardwiring Excellence*, Studer urged health care leaders to utilize rounding for outcomes on patients and staff to help improve satisfaction. Rounding for outcomes on staff builds relationships, improves communication, and helps leaders to identify areas for process improvement, and provides an opportunity for leaders to collect and pass on recognition to staff. Rounding on patients can improve clinical outcomes, promote patient safety, and increase/improve patient satisfaction.

The purpose of this presentation is to describe how Rounding for Outcomes can be utilized to increase patient and staff satisfaction. On our 32-bed surgical oncology urology and orthopedic unit, managers implemented Rounding for Outcomes as a quality improvement project to increase patient and staff satisfaction. Rounding for outcomes is the practice of asking specific questions of staff and patients to obtain actionable information. A "Workday Assessment" tool is utilized by managers to obtain the status of the employee satisfaction and morale at any point in time. Example questions asked "I felt appreciated / recognized for my efforts." "Is there any staff that you would like to recognize for doing an outstanding job?" Managers specifically focused on consistently asking positive questions of patients and staff to help promote a positive work culture.

The NRC Picker patient satisfaction scores in the eight dimensions of care have remained consistently lower and statistically significant when compared to NRC Picker best institutions. Survey of staff conducted in 2008 revealed 5% improvement in staff satisfaction compared to previous survey done in 2005. Various opportunities for improvement have been identified during rounds and team members have implemented quality improvement projects that have been presented at national nursing conferences.

Patient satisfaction is important to the viability of any health-care organization. Managers must recognize that patients experience better outcomes when they are cared for by satisfied staff. Remaining positive and utilizing effective tools to proactively enhance patient and staff satisfaction are viable solutions to help improve outcomes.

### 3873

**CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING: EXPLORING THE GAP BETWEEN PATIENT AND PROVIDER PERCEPTIONS OF CARE.** Miriam Rogers, EdD, RN, AOCN®, CNS, WakeMed Health and Hospitals, Raleigh, NC; John Salsman, PhD, Center on Outcomes, Research, and Education, NorthShore University HealthSystem, Evanston, IL; Jen Beaumont, MS, Center on Outcomes, Research, and Education, NorthShore University HealthSystem, Evanston, IL;

Sarah Rosenbloom, PhD, Center on Outcomes, Research, and Education, NorthShore University HealthSystem, Evanston, IL; Jessica Noonan, BA, Center on Outcomes, Research, and Education, NorthShore University HealthSystem, Evanston, IL; Dave Cella, PhD, Center on Outcomes, Research, and Education, NorthShore University HealthSystem, Evanston, IL

Despite progress in symptom control, chemotherapy-induced nausea and vomiting (CINV) continues to be problematic, especially in delayed presentation. Grunberg et al. discovered an underestimation of incidence of delayed CINV by treatment providers and gaps in perception between providers and patients. Understanding the frequency and severity of acute and delayed CINV as well as communication about CINV between providers and patients has the potential to help improve outcomes.

The purpose of this study is to identify patients' and providers' perceptions of communication, management, and barriers to quality care of CINV, and to explore possible solutions to these barriers.

Communication barriers between patients and providers regarding CINV management were identified through literature review and expert input. We then developed patient and provider versions of a Nausea and Vomiting Management Barriers Questionnaire (NVMBQ). The NVMBQ contains likert-scale items addressing potential barriers such as desire to limit medications, lack of provider-initiated communication, and desire to be a "good" patient. Other potential barriers explored include drug access (i.e., formulary), cost, and insurance coverage. Providers and patients are also given opportunities to add detail in open-ended questions.

300 patient surveys are being administered via the internet through a consortium of advocacy groups. Patients with a current or past history of breast, colon or lung cancers, leukemia or lymphoma are eligible. 150 provider surveys are also being administered via the Internet. 75 oncologists will be recruited through the National Comprehensive Cancer Network and 75 oncology nurses will be recruited through Oncology Nursing Society mailing lists. All participants will complete a sociodemographic form and their respective NVMBQ. Descriptive statistics (N, percent) will be tabulated for responses to each of the survey questions for the patient and provider samples and compared. Chi-square tests will be used to evaluate whether patient characteristics (e.g. diagnosis groups) or provider backgrounds predict item ratings. Open-ended responses will be summarized and frequency tabulation used to identify aggregate theme.

Data collection is underway. Collection and analysis will be completed by April 2009. Findings will inform subsequent qualitative research and guide potential interventions.

**Funding Source:** GlaxoSmithKline

### 3875

**OUTCOME MEASURES OF AN ONCOLOGY NURSE INTERNSHIP PROGRAM.** Sandra Kelly, RN, MSN, OCN®, Huntsman Cancer Institute, Salt Lake City, UT; Mary Jean Austria, RN, BSN, OCN®, Huntsman Cancer Institute, Salt Lake City, UT; Annette Welch, RN, MS, OCN®, Huntsman Cancer Institute, Salt Lake City, UT; Susan Childress, RN, MN, OCN®, Huntsman Cancer Institute, Salt Lake City, UT

The Huntsman Cancer Institute is a 60 bed regional referral center for cancer care in the intermountain west. In 2007, under the effects of a nursing shortage, nursing administration was challenged with providing quality oncology nursing care. The immediate solution was to fill the vacancies with nurse travelers and agency nurses. Recruitment and retention was a continual issue resulting in increased financial costs to the hospital. Staffing with temporary nurses, not committed to oncology nursing, affected the ability to provide continuity and quality care. To provide a long term solution, the Huntsman Cancer Institute developed and implemented an Oncology Nurse Internship Program (ONI) as an ONS LDI project. The program officially started in July of 2007.

To date, four classes have been completed. Twenty nine nurse interns have graduated.

The purpose of the ONI program is to (a) address recruitment and retention and (2) establish a standard of competence of entry level oncology nurses.

The ONI program is a 16 week didactic and clinical education program. To ensure course objectives are being met, didactic and clinical evaluations are conducted at specific milestones during the course of the program. The clinical component includes practicum on the medical, surgical, and Bone Marrow Transplant inpatient units, and outpatient clinics. The curriculum is based on the ONS Core Curriculum for Oncology Nursing. Nurses successfully completing the internship commit to two years of employment.

Twenty months after the start of the program, an evaluation demonstrates positive administrative outcomes. The outcome measures demonstrated (1) the elimination of nurse travelers and long term agency nurses, and (2) the graduates have documented didactic and clinical competence as nurse generalist in the field of oncology.

The implications for oncology nursing administration demonstrate (1) the program positively effects oncology nurse recruitment and retention, and (2) a standard level of competence for entry level oncology nurses has been established. Additional benefits from this program have been increased staff satisfaction, and increased involvement on unit clinical practice councils, committees, and projects. The popularity of the program has provided the opportunity for administration to explore the development a resource pool of oncology nurses.

### 3876

**THE ROLE OF AROMATHERAPY IN POSTOPERATIVE NAUSEA AND VOMITING.** Robina Kitzler, BSN, RN, CPAN, CNIV, Memorial Sloan Kettering Cancer Center, New York, NY; Stephanie Nolan, MS, RN, CPAN, Memorial Sloan Kettering Cancer Center, New York, NY

Postoperative Nausea and Vomiting (PONV) is a common complaint following surgery. Complications related to PONV can cause prolonged post anesthesia care unit (PACU) stays, unanticipated hospital admissions, surgical complications and psychological discomfort. A Nursing PACU Evidence-Based practice committee investigated the use of aromatherapy as a complimentary treatment for PONV.

Isopropyl alcohol (IPA) is currently being used by PACU nurses at Memorial Sloan Kettering Cancer Center (MSKCC) as an aromatherapy treatment for PONV without the evidence to support its use. Aromatherapy is not part of the standard PONV guidelines. An evidence-based review was conducted regarding the use of aromatherapy in PONV. The search produced meta-analyses and randomized control trials (RCTs). The Clinical Guidelines for the Prevention and/or Management of PONV formulated through and evidence-based review by the American Society of Peri-Anesthesia Nursing were reviewed. These guidelines reviewed 109 articles and were ranked using the Stetler Model. Aromatherapy agents such as isopropyl alcohol, ginger, and peppermint were ranked as effective rescue interventions for PONV.

A five day survey was conducted on current PONV prophylaxis and rescue interventions on 169 patients in the PACU. The results showed prophylaxis and rescue interventions varied widely and IPA was frequently used, although not part of the current institutional PONV guidelines. A multi-disciplinary meeting was held with anesthesia providers, pharmacists, and nurses to review our current PONV practice and explore the addition of aromatherapy. Consensus was achieved, and aromatherapy was added to the PONV guidelines as a rescue intervention. In addition, modifications were made to the timing and administration of PONV prophylaxis to decrease the interval between antiemetic doses during long cases.

Our current PONV prophylaxis and rescue interventions guidelines were revised, which provides standardized practice for all

patients. Aromatherapy was approved and included as a rescue intervention, allowing patients an opportunity for an alternative adjunct to treat PONV.

Based on the presentation of our findings to our oncology nursing colleagues, aromatherapy will be explored as part of the MSKCC antiemetic guidelines for chemo/biologic therapy. A multi-disciplinary group is currently investigating aromatherapy products in addition to IPA that may be used for PONV.

### 3877

**ONLY HEARTBURN . . . OR IS IT? INCREASING AWARENESS AND TREATMENT OF BARRETT'S ESOPHAGUS.** Dana Inzeo, RN, APRN, AOCN®, Valley Hospital, Paramus, NJ; Jennifer Deraney, RN, BSN, Valley Hospital, Paramus, NJ

Approximately 20 million adults in the U.S. have gastroesophageal reflux disease (GERD). Over two million people have Barrett's Esophagus (BE); a serious complication of GERD and risk factor for esophageal cancer. Approximately 15,500 people will be diagnosed with esophageal cancer in 2009 resulting in almost 14,000 deaths. There are national guidelines for endoscopic surveillance for patients with BE, however, there remains inconsistency in patient education and management.

The Valley Hospital in New Jersey opened the Center for Barrett's Esophagus and GERD two years ago. The goal is to educate the community and encourage those with these conditions to receive medical evaluation and comprehensive care. Patient's with BE are offered treatment with the latest technologies including radiofrequency ablation (RFA) and surveillance according to national guidelines. An IRB approved protocol ensures standardized patient care and guides data collection for outcome and genomic analysis.

An oncology nurse practitioner (NP) serves as the coordinator of the center. The NP triages calls, provides patient/community education, makes referrals, schedules treatment, manages pre/post procedure care, and follow-up. The NP meets with every protocol enrollee to discuss diagnosis, treatment, and post treatment instructions. Patients are provided with educational materials developed by the NP. The NP is the liaison between patients, physicians, and treatment center staff.

The NP is instrumental in determining outcomes for callers to the center. There have been over 300 calls to the center. Of these, over 100 patients have been referred to a gastroenterologist and/or a thoracic surgeon for discussion of acid reflux treatment. 57 patients have enrolled onto protocol, with 30 undergoing BE treatment of which 15 are disease free. 11 patients underwent anti-reflux surgeries. 6 patients were diagnosed with esophageal cancer and treated promptly. Several out of state patients contacted the center and were referred for treatment by a physician in their area.

Increasing awareness and understanding of BE results in the proper and timely treatment of this pre-malignant disease. This is important in the prevention and early detection of esophageal cancer. The NP has the important role of educating the public, as well as those with BE about making good treatment decisions.

### 3881

**USING AN ESSENTIAL OIL WITH BREAST BIOPSY PATIENTS IN AN OUTPATIENT SETTING.** Michelle Willman, RN, BSN, OCN®, ProHealth Care Center for Breast Care, Waukesha, WI; Joan Bink, RN, BSN, ProHealth Care Center for Breast Care, Oconomowoc, WI; Joy Swain, RN, BSN, OCN®, ProHealth Care Center for Breast Care, Waukesha, WI

Having a breast biopsy is a stressful event. As a result, many patients are significantly anxious when they present for needle biopsy in our multi-site outpatient breast centers. Although fear of a possible breast cancer diagnosis contributes to this stress, fear of the biopsy itself is also a source. For these patients, creating a more desirable environment during the biopsy may improve their overall experience.

Our purpose was to create a calm, comfortable, relaxing environment by implementing essential oils to improve the care of our



patients undergoing breast biopsy. Through a review of nursing and integrative therapies literature, lavender was the essential oil selected because it met criteria, as it was widely accepted, easy to administer, safe and economical.

Nurses developed a process improvement plan including a protocol and staff education. Patients were screened to determine if appropriate. Lavender was given by inhalation from a drop on a cotton ball. Patient responses were evaluated post-procedure with Healing Environment Response score (HER score), a Likert-type scale (0=chaotic, stressful to 5=calm, comfortable, relaxed). Patients' subjective responses were also collected.

Lavender was offered to all of the appropriate breast biopsy patients (n=250). Of these patients, 84% were interested in using lavender during biopsy. Patients who used lavender reported a mean HER score of 4.84, while those who declined reported a mean HER score of 4.49. Patients not appropriate for lavender (n=46) were also evaluated and reported a mean HER score of 4.56. No complications from lavender use were reported. It was well-received by patients, nurses, technologists and physicians.

We cannot eliminate the stress and anxiety related to a potential breast cancer diagnosis. However, use of the essential oil lavender creates a calm, comfortable and relaxing environment and makes patients feel well cared for. This simple intervention has an overwhelmingly positive impact on patient care and now is our standard of care. The implication for oncology nurses is to expand the use of lavender to patients undergoing other procedures and treatments. Currently, essential oils are being evaluated for other populations within our healthcare system.

### 3882

**A UNIQUE APPROACH TO A MULTIDISCIPLINARY LUNG CLINIC: WHERE ACTIVE TREATMENT MEETS SUPPORTIVE CARE.** Sharon Woodruff-Gladstone, MS, RN, ANP-C, OCN®, UT Southwestern Medical Center Simmons Comprehensive Cancer Center, Dallas, TX

Symptom management of lung cancer is challenging for both the patient and care provider. Many patients present with a myriad of symptoms requiring multidisciplinary input. Early identification and intervention integrating the supportive care team approach beginning with diagnosis and continuing through all aspects of care can enhance symptom management and quality of life.

The purpose of this project was to develop an integrated approach to supportive care of individuals with lung cancer. Developing such an approach at the time of diagnosis provided consistent support and a seamless transition from active treatment to palliative care. Supportive care was defined as physical, nutritional, and psychosocial symptom management. Supportive care team members included a palliative care physician, social worker, nutritionist, and psychologist who worked closely with the multidisciplinary lung clinic team to provide individualized care.

During the initial visit to the lung clinic, each patient completed a risk assessment and met all members of the integrated management team. An individualized plan of care was developed after discussion with the patient and family.

The supportive care team has been well integrated into the lung clinic process. Repeated risk assessments revealed patient satisfaction with the integrated approach and a smoother transition to changing levels of care.

Prior to incorporating the supportive care team into the lung clinic, we met to discuss some of the challenges and inconsistencies for patients as they transitioned from active treatment to palliative care. We identified a sense of abandonment in the patient and family members as their care was handed over to the "palliative" care team. For this reason, we chose to introduce team members early in the treatment phase and use the term "supportive" care. We also identified variability in satisfactory symptom management. With needs monitored along their cancer journey by consistent healthcare providers, patients and families reported a better overall experience and acceptance throughout the care continuum.

### 3883

**SNEAK-A-PEEK CAMPAIGN TO IMPLEMENT STANDARDIZATION OF MUCOSITIS ASSESSMENT AND DOCUMENTATION.** Kimberly Bishop, RN, Duke University Hospital, Durham, NC; Suzanne Condon, RN, MSN, CNII, OCN®, Duke University Hospital, Durham, NC; Laura Houchin, RN, MSN, CNS, OCN®, AOCN®, Duke University Hospital, Durham, NC; Deborah Allen, RN, MSN, CNS, FNP-BC, AOCNP®, Duke University Hospital, Durham, NC

Mucositis is a serious, yet commonly experienced side effect of most oncology treatments, impacting quality of life and resulting in delays or early cessation of treatment. Evidence supports daily assessment for prevention and early detection which may minimize pain, additional risk for infection and need for other procedures such as feeding tube placement.

While Duke University Health System subscribes to the ONS guidelines for mucositis assessment and treatment, the goal of this educational roll-out was to standardize the clinical practice for assessment, treatment, and documentation of mucositis on all inpatient oncology units. The Oncology Clinical Practice Committee approved recommendations for use of NCI CTCAE (v.3), therefore staff on these units were involved in developing and implementing the educational plans.

A survey of inpatient oncology nurses regarding their current knowledge, assessment, and documentation practices was completed. Staff competed in a slogan contest for the mucositis initiative and the winning slogan is printed on their penlights. Staff were presented a "Sneak-A-Peek" penlight upon completion of the NCCN Task Force, Mucositis educational program and CE test. Documentation standards were further discussed with staff through staff meetings and poster formats. Visual grading cards with pictures and signs and symptoms were added to each documentation area to further assist in standardizing documentation.

Pre-educational surveys revealed that the majority of nurses did not assess for mucositis on every patient, even if patient was at risk for developing mucositis. Mucositis assessment, even at grade 0, was not routinely documented. Assessment predominately occurred if a patient complained of symptoms suggestive of mucositis. Documentation review will continue each quarter; with first quarter reviews of documentation, post-education, completed by ONS Congress. Reviews evaluate clinical practice changes. There will also be a review of the initiative and its educational element in one year.

Standardization of our clinical assessment tool has improved communication amongst the staff and has lead to earlier detection of mucositis in our clinical population. As documentation of mucositis prevalence has increased, we have identified areas in which to further minimize side effects of oncology treatments which will promote better quality of life.

### 3884

**2.5 TIMES THE UPPER LIMIT OF NORMAL—GRADING LABORATORY ADVERSE EVENTS.** Vilma Lopez, RN, MSN, OCN®, UT M.D. Anderson Cancer Center, Houston, TX

Clinical Trial Nurses (CTN's) routinely report adverse events caused by cancer therapy. NCI published the CTCAE to standardize adverse event reporting with a grading scale for each Adverse Event (AE) term. Blood/Bone Marrow and Metabolic/Laboratory categories provide specific parameters for each grade, based on reference ranges. Reference ranges, are often referred as "normals" and each laboratory publishes its own normal ranges. For grading AE's CTN's need to review laboratory results for each test and subject. Find the "normals" for the laboratory that performed the tests, check for gender specific variations, and match results with the CTCAE grading scale. In Pediatrics, the challenge is bigger because "normals" varies by age. Average number of tests performed by visit is 10 to 12. Literature search showed no returns for Adverse Event calculators.

The purpose is to simplify calculations, saving valuable nursing time. The CTN needs to get the normals once, get grading rules once, set up a calculator and make it transferable.

I selected most frequent tests which have numerical values results, identified gender and age variations, and patterned the grading scale by method of calculation, i.e. factors, values, or combination of both. I designed a spreadsheet in Excel to perform the calculations. The calculator returns a grade when a test is selected and a value entered. The calculator is self standing.

Compare time employed to grade AE's by using traditional method versus calculator, for each laboratory value. Calculator will have to be updated when "normals" change or if grading scale is modified. Nurses in our department will time AE evaluations for both traditional and AE calculator methods.

Calculator use will help CTN's in reporting AE's and for submitting information to the investigator for dose modifications. Once set up anybody can use it. It can be e-mailed or shared. "Normals" for other laboratories can be easily substituted.

Alternatively, the calculator can be used as a prototype for system design where calculations can be programmed into a database which will return the AE's grade with each laboratory result.

### 3887

#### IMPLEMENTATION OF A HUNTSMAN CANCER HOSPITAL HEAD AND NECK INTERDISCIPLINARY TREATMENT TEAM.

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Research indicates that the best outcomes for Head and Neck (H & N) cancer patients are by instituting a plan of care coordinated by an interdisciplinary team. Nursing Staff on the surgical oncology unit identified three critical elements that impact successful treatment of head and neck cancers. These include: 1) Clear and consistent communication from all providers regarding the treatment plan, 2) Strong coordination of care across all treatment areas, and 3) Strong psycho-social support in helping patients understand the realities of this diagnosis, challenges during treatment, and functional outcomes post treatment.

Project goals were to improve communication and coordination across all treatment modalities and services, develop nursing, patient and family education, and measure patient outcomes.

The H & N Interdisciplinary Team developed and implemented a patient flow sheet to provide care across departments. Patient, family, and staff education was revised and also coordinated. Finally, in coordination with the hospital Quality Department, a tool for evaluation of outcomes was developed and was used to measure success.

The H & N Interdisciplinary Team has improved communication between all disciplines. An inpatient education competency module was developed with the use of evidenced-based practice.

The diversity of Head and Neck surgical patients is complex and challenging. The patient centered goals were of paramount importance, therefore guidelines and standards of care were developed to assist oncology nurses to provide optimal patient care.

### 3892

#### TELE HEALTH MONITORING: IMPROVING QUALITY OF LIFE FOR END STAGE AMYLOIDOSIS PATIENTS.

Stephanie Primiani, BSN, RN, Memorial Sloan-Kettering Cancer Center, New York, NY; Carmen Castillo, RN, BSN, Memorial Sloan-Kettering Cancer Center, New York, NY

Improving quality of life in end stage cancer patients is an important focus in oncology nursing. This is true in patients with Primary Amyloidosis, a B cell dyscrasia that often goes

undiagnosed until the late stages of disease. Median survival is 13.2 months. Patients commonly have symptoms of dyspnea, fluid overload, and hypotension. Supportive care and symptom management is crucial and can reduce recurrent visits. To this end, a team of nurses at this NCI designated comprehensive cancer center implemented a Telehealth Monitoring (THM) pilot project.

The goal was to remotely monitor vital signs, daily weights, diet, and medication management at home. To reduce the frequency of hospital admissions, urgent care, and clinic visits, and improve quality of life for patients and their families.

Patients with cardiac or renal involvement with amyloidosis who require diuretics to manage post-chemotherapy symptoms and symptoms of congestive heart failure were identified. To date, six patients have participated. A digital monitoring system was installed in the patient's home to record vital signs and daily weight. Results were transmitted electronically via modem to the home care agency and designated provider who evaluated trends. Abnormal values prompted an RN visit to the patient's home for further evaluation. The home care nurse communicated with the office practice nurse to determine appropriate interventions.

THM is an effective home management strategy for this patient population. It has reduced trips to the clinic for vital signs, weight monitoring and medication management. Since pre-implementation, patient visits decreased from thirty five to nine. It has reduced hospital readmissions and visits to the urgent care center. It has provided more effective symptom management. Patients and families report, improved quality of life while having a more active role in their care.

Though small, this pilot demonstrates successful home monitoring of a tenuous cancer population. THM can be applied to other oncology practices to better manage care of symptoms related to active treatment. We plan to expand THM to other oncology patient populations

### 3893

#### EVIDENCE-BASED STANDARDS FOR A NON-NEUTROPENIC DIET IN AN ADULT INPATIENT ONCOLOGY SETTING.

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Nutrition is a vital component to oncology patients' quality of life. Healthcare providers struggle to maintain a balance of caloric and protein demands. Because of nausea, vomiting, decreased appetite, and changes in taste and food preferences oncology patients struggle to find appealing foods. Historically, most oncology centers utilize neutropenic guidelines which incorporate stringent dietary restrictions thought to minimize infectious exposure. Accordingly, our medical and nursing staffs have educated patients regarding the restrictions surrounding the neutropenic diet. In an effort to incorporate evidence-based practices into our oncology center, a committee of nursing staff was formed to review literature on the efficacy of the neutropenic diet.

Through a review of the literature, the goal of the committee was to propose evidence-based dietary recommendations for our inpatient oncology units, specifically regarding any usefulness of the neutropenic diet. Following the completed literature review, the committee's recommendation to either continue utilizing and teaching the neutropenic diet as a unit standard or its cessation would be presented to the medical staff. Thereafter, monitoring patient satisfaction with the dietary recommendations is planned.

With use of the search terms neutropenic diet, oncology dietary restrictions and low microbial diet, 12 articles were reviewed based on relevance to unit specifics and population similarities.

No scientific benefit to patients complying with the neutropenic diet was found according to reviewed literature. The committee created an educational document for distribution to patients regarding safe food handling, preparation, and storage. The completed document and the committee's recommendation to cease use and teaching of the neutropenic diet was reviewed and approved by the medical staff and unit dietitian.

Ongoing evaluation following the first six months of adoption of the non-neutropenic diet is underway. Press Ganey scores are being monitored for patient satisfaction following this change in dietary options.

Following a thorough review of the literature, our center has incorporated evidence-based findings into our dietary standards for adult oncology inpatients. It is anticipated that satisfaction with the expanded food options will increase, improving quality of life and choice for oncology inpatients.

### 3894

#### A COMPARISON OF BURNOUT IN ONCOLOGY NURSES.

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Burnout is a gradual process beginning with enthusiasm, advancing to stagnation, augmenting to frustration, and ultimately resulting in apathy. Nurses suffering from burnout experience a decline in quality of work, conflict with colleagues, indifference and cynicism towards patients, increased alcohol intake, family pressure, relationship breakdowns and increased irritability. Nurses who work in oncology are at an increased risk for burnout because of the intense and ongoing losses inherent to oncology nursing. The majority of a gap in the literature when comparing the presence of burnout and adult inpatient and outpatient settings.

The purpose of this study is to explore the presence of burnout in oncology nurses working in adult and pediatric inpatient and outpatient settings at St. Luke's Regional medical Center and examine the extent to which demographic factors influence burnout in this population.

Licensed Registered Nurses that work at St. Luke's Regional Medical in the inpatient and outpatient oncology settings were asked to complete three questionnaires: the Maslach Burnout Questionnaire, a questionnaire on nursing satisfaction, and a demographic data questionnaire developed by the researchers. Data will be analyzed to evaluate factors that are closely associated with burnout and also to compare levels of burnout in adult and pediatric inpatient and outpatient settings. This research study is still in progress. Data collection has been completed and the researchers are currently analysing the data.

Cancer nurses are a valuable resource and retention of oncology nurses is vitally important. Burnout is costly, not only in turnover, but it affects quality patient care. Nurses who remain in areas where burnout is endemic have shown signs of increased rates of absenteeism and reduced productivity. Burnout results from prolonged high levels of stress at work, and when left untreated can result in an exodus of health care workers from the emotionally intense situations

### 3895

#### SYMPTOM PATTERNS AND PHYSICAL FUNCTIONING BEFORE AND AFTER SURGERY FOR LUNG CANCER.

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Bernard Park, MD, Memorial Sloan Kettering Cancer Center, New York, NY

Little is known about the impact of curative surgical resection on symptom pattern and physical function of patients with lung cancer. Preliminary evidence has shown that changes are seen in physical and functional health status, particularly in the level of postoperative pain and dyspnea. The persistence of these changes varies in the literature and information on symptom patterns and physical functioning of these patients is needed.

This study is a secondary analysis of data from a study of quality of life (QOL) in patients with lung cancer undergoing surgery. The purpose was to assess physical functioning and symptom patterns over time.

The Theory of Unpleasant Symptoms guided this study. The theory postulates that physiologic, psychological, and situational factors interact with each other and with symptoms to define the overall symptom experience.

Ninety-three patients were assessed at baseline (pre-operative), post operative (n=82), and at 4 (n=60), 8 (n=40), and/or 12 (n=24) months post surgery. Patients completed the SF-36 Health Survey as well as the Brief Pain Inventory, Brief Fatigue Inventory, and the Baseline Dyspnea Index. Clinical variables and demographic data were also collected.

One-way ANOVA showed a statistically significant difference in physical functioning ( $p<0.001$ ), dyspnea ( $p=0.005$ ), and pain ( $p<0.001$ ) by time point. Physical functioning scores were highest at baseline (74.03,  $sd=25.23$ ) and dropped significantly following surgery (58.68,  $sd=21.72$ ), recovering at four months (69.75,  $sd=22.10$ ), never returning to baseline (71.25 at eight months, 71.46 at 12 months). Additional analyses will be presented. Nurses' awareness of the potential loss of physical functioning after surgery and the impact on quality of life is important for appropriate patient care planning. These results contribute to our knowledge of lung cancer survivors which is essential for maximizing patient's ability to adapt to changes and achieve the best quality of life possible.

### 3897

#### RETENTION STRATEGIES FOR ENDANGERED SPECIES:

ONCOLOGY NURSES. Lita Tsai, RN, BSN, MA, City of Hope Medical Center, Duarte, CA; Gail Kerfoot, RN, BSN, City of Hope Medical Center, Duarte, CA

The latest projections from the U.S. Bureau of Labor Statistics indicate that more than one million new and replacement nurses will be needed by 2012. The American Hospital Association's TrendWatch reported that 126,000 nurses were needed fill vacancies at our nation's hospitals. Today, 75% of all hospital vacancies are for nurses. The nursing shortage is expected to intensify as baby boomers age and the need for health care grows. With the aging population needs, the dwindling supply of oncology nurses is especially critical.

The purpose of the study is to identify factors that may significantly influence the retention of oncology nurses and describe the nurses' perceptions of their performance in their workplace.

Valuation quotient is the degree one feels valued and important. Valuation may come from intrinsic and extrinsic sources. Nurses who feel valued and experience job satisfaction bring about better patient outcomes and patient satisfaction. Organizations can examine the factors that may contribute to increasing the "valuation quotient" and develop them further.

The study is an exploratory quantitative research design. A paper and pencil survey, "Survey on Retention Strategies for City of Hope Nurses", was adapted from the RWJ Foundation's study on Wisdom at Work. The survey included factors such as Work Fitness; Work Environment; Human Resource Practices; Collegial Support at the Workplace; and Education and Learning Opportunities. The study describes nurses' perceptions of factors that may influence their decision to continue their



employment and self-reporting of their performance. Descriptive statistics and a multiple regression analysis were used to analyze the results.

Findings will be valuable in development and implementation of policies and strategies relating to work environment, collegial support, human resource practices, and educational support. 178 nurses responded to the survey, 65% were over 40 years old. 33% have over 16 years of service at City of Hope. Retention factors identified included optimum work environment, employee supportive human resource practices, and good collegial support. Results will be used to develop a retention program specific to the needs of oncology nurses.

### 3900

**ONS FOUNDATION MULTI-SITE RESEARCH TRAINING PROGRAM: LESSONS LEARNED TWO YEARS OUT.** Heidi Donovan, PhD, RN, University of Pittsburgh School of Nursing, Pittsburgh, PA; Susan Nolte, PhD, CRNP, Gynecologic Oncology Institute, Abington Memorial Hospital, Abington, PA; Teri Pipe, PhD, RN, Mayo Clinic Arizona, Phoenix, AZ; Connie Ulrich, PhD, RN, University of Pennsylvania School of Nursing, Philadelphia, PA; Casey Hooke, RN, PhD, CPON®, Childrens Hospitals and Clinics of Minnesota, Minneapolis, MN; Linda Lillington, DNSc, RN, Oncology Nursing Society, Pittsburgh, PA; Pamela Hinds, PhD, RN, FAAN, Childrens National Medical Center, Washington, DC

NCI's Cooperative Group Program is designed to promote and support research to advance the science of cancer prevention, treatment, and survivorship. Although there are many nurses active within the 1,700 cooperative group institutions, few nurse scientists have successfully taken research concepts from development to implementation within the cooperative groups.

In 2005, ONS Foundation announced a plan for facilitating multi-site research which included collaborations with cooperative groups. A workshop for nurse investigators new to cooperative group research was developed. The goals were to foster nurse-led interdisciplinary research within cooperative groups and facilitate the development of research concepts by interdisciplinary teams. The purpose of this presentation is to outline the training program and present 2 year post-training survey results including the progress of the interdisciplinary teams, barriers to concept approval, and strategies for success.

The three day workshop was held in October, 2006. Interdisciplinary members from five NCI cooperative groups (COG, GOG, NCCTG, CALGB, RTOG) met to train nurse investigators on the structure and process of cooperative groups. Each interdisciplinary team, led by a nurse investigator, worked to develop research concepts for their respective cooperative groups. Over the next two years, each team worked to obtain concept approval.

Two years post-training, three concepts have been approved with two receiving full-protocol approval. Two teams are working to obtain pilot data prior to concept submission. All participating nurse investigators reported helpful support from their team; none would have proposed a cooperative group concept without the training. Barriers included balancing the timing of cooperative group approval processes with proposals for external funding, and negotiating the cooperative group culture. Successful strategies included having a well-developed research plan prior to concept submission, pro-active communication with cooperative group administration, and the commitment of a key cooperative group team member to champion the concept.

The NCI Cooperative Groups provide tremendous opportunity to conduct multi-site trials to advance the science of oncology nursing. Understanding the cooperative group concept approval process is critical for nurse scientists. The ONS foundation multi-site research training program was successful in providing nurse-led interdisciplinary teams with the resources to navigate this complex research environment.

### 3901

**PREPARING FOR HIGH INTENSITY FOCUSED ULTRASOUND (HIFU) IN RADIATION ONCOLOGY: A MULTI-DEPARTMENTAL TEAM APPROACH.** Kathleen MacDonald, RN, BSN, OCN®, Fox Chase Cancer Center, Philadelphia, PA; Ruth Cherry, BSN, Fox Chase Cancer Center, Philadelphia, PA; Kathy Trainor, BSN, Fox Chase Cancer Center, Philadelphia, PA; Elaine Callahan, LGPN, Fox Chase Cancer Center, Philadelphia, PA

Pain from bone metastasis is the most common cause of cancer pain. Due to better therapeutic management patients are living longer contributing to the higher incidence and prevalence of metastatic bone lesions. Improving their quality of life becomes a major challenge for the oncology nurse. External beam radiation therapy (EBRT) is the standard of care for patients with localized bone pain, resulting in palliation of pain in the majority of patients. For those patients treated with EBRT that do not experience pain relief, high intensity focused ultrasound (HIFU) is a possible option.

Prior to the delivery of HIFU, the patient must receive analgesia and sedation to reduce pain, limit patient movement, alleviate anxiety and claustrophobia. The purpose of this project was to provide formal training to the Radiation Oncology Department in conscious sedation administration through mentoring from both Interventional Radiology and the Department of Anesthesia.

An initial start up meeting was held in the Radiation Oncology Department to develop an action plan for the implementation of HIFU and conscious sedation administration. It was decided that the following criteria must be met before proceeding with the treatment plan: 1. The Radiation Oncologist must complete credentialing in airway management, monitored by the Anesthesia Department. 2. Nurses must demonstrate telemetry proficiency in addition to ACLS certification. 3. Nurses must complete a competency based education program that includes a competency validation process demonstrating knowledge, skill and ability 4. For each nurse administering conscious sedation, a set number of initial HIFU cases must be co-monitored by an experienced radiology nurse. 5. During moderate sedation administration, the nurse-patient ratio must be maintained at 1:1 from the start of monitoring to patient discharge.

All credentialing and competencies were completed by the Radiation Oncology staff with a score of 100%. Patient was adequately sedated prior to the first sonication and throughout the procedure.

HIFU is potentially an effective non-invasive alternative in the treatment and management of patients with metastatic bone tumors. The risks of conscious sedation, including reaction to drugs and oversedation, requires highly skilled nurses educated in specific conscious sedation protocols.

### 3902

**PSYCHOSOCIAL TRAJECTORIES OF MEN UNDERGOING ACTIVE SURVEILLANCE FOR PROSTATE CANCER.** Donald Bailey, PhD, RN, Duke University School of Nursing, Durham, NC; Meredith Wallace, PhD, APRN-BC, Yale University, School of Nursing, New Haven, CT; Lawrence Landerman, PhD, Duke University, School of Nursing, Durham, NC; David Albala, MD, Duke University, School of Medicine, Dept of Surgical Urology, Durham, NC; Thomas Polascik, MD, Duke University, School of Medicine, Dept of Surgical Urology, Durham, NC; Cary Robertson, MD, Duke University, School of Medicine, Dept of Surgical Urology, Durham, NC

Active surveillance (AS) has been proposed as a reasonable alternative for older men with localized prostate cancer. However, this option is controversial, and men undergoing AS live with illness uncertainty. Previous studies have overlooked the psychological ramifications of living with untreated prostate cancer and have not considered that these men experience psychological

distress often triggered by the knowledge that their cancer may be growing without specific disease symptoms.

The purpose was to describe the psychosocial trajectories of men undergoing AS for prostate cancer during a 24 month time period.

The study was conducted from a trajectory perspective based on the work of Clipp, Elder, George and Pieper and Mishel's Uncertainty in Illness Theory. Trajectories reflect the course of a chronic condition over time and the strategies used by the individual to manage its course. Mishel defines uncertainty as an inability to structure meaning for illness-related events.

Eight men were recruited from a tertiary care medical center in a southeastern state. They were interviewed in their homes at baseline, over the telephone at 6, 12, and 18 months and then in their homes at 24 months. They completed a questionnaire booklet to include, the Profile of Mood States, Mishel Uncertainty in Illness Scale, Community Form (MUIS-C), and Cantril's Ladder.

The 8 men were 62% Caucasian and 35% African American. They had an average age of 75.4 years (SD=4.8 years) with 5 comorbid health problems. Fifty percent of the men had less than a high school education. Most (63%) were married or living with a partner; 12% were divorced, 25% widowed. Baseline illness uncertainty levels, ranged from 59-102, with a mean score of 80.6, indicative of moderate uncertainty. Longitudinal health pattern graphs of individual subject's mean scores will be presented.

This study provides preliminary data on the psychosocial trajectories of men during 24 months of AS and suggests optimal time intervals for nursing intervention. As evidence continues to mount regarding the over-treatment of prostate cancer, it is hoped that more men with localized prostate cancer will consider an AS protocol.

### 3903

#### ONCOLOGY NURSES TRANSFORMING CARE: RAPID RESPONSE STEPS TO SUCCESS BY USING A CHEMOTHERAPY ADMINISTRATION PROCESS IMPROVEMENT ALGORITHM.

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Chemotherapy order and administration processes are often multifaceted, creating a challenge for both novice and experienced oncology nurses. Chemotherapy orders may be available to the staff in either paper or electronic order sets. This process may vary from unit to unit in hospital settings creating an opportunity for confusion, and medication error. "Chemotherapy Roadmaps" have been created for nurses at Roswell Park Cancer Institute to organize the sequence of chemotherapy administration. The creation of a "Rapid Response Steps to Success" algorithm, was developed to enhance the existing "roadmap" process by guiding the oncology nurse through the chemotherapy administration step by step until all questions have been answered, and the nurse can safely and successfully administer the chemotherapy to the patient.

The purpose of the algorithm: 1) promote patient medication safety by providing step by step instruction, and additional resources to enhance existing chemotherapy administration processes; 2) Include ideas and strategies of the nursing staff at the bedside who are essential in understanding the needs of the patient to provide safe and reliable care; 3) the algorithm is a useful tool for all nurses at every level of oncology experience to confidently navigate through a paper and paperless chemotherapy order system.

The implementation of the algorithm is driven by the type of chemotherapy order. Following each step of the process, the nurse is prompted by the word "questions?". If the answer is "yes", the nurse is directed to a core list of steps to follow. These include: 1)

contact prescriber, notify charge nurse; 2) contact research nurse/coordinator if study patient; 3) notify on call chemotherapy nurse; 4) Call Nursing Supervisor. Once all questions are answered successfully, the nurse may proceed to chemotherapy administration.

The algorithm was evaluated by nursing staff and the Nursing Staff Executive Council for content and organization. The algorithm will be updated and evaluated as Institutional changes occur.

The algorithm is an accessible visual tool for oncology nurses to implement safe chemotherapy administration. Oncology nurses are in a unique position to transform care at the bedside by developing and implementing algorithms of care that promote optimum cancer care.

### 3905

#### BEEN THERE DONE THAT—CONVERTING EXPERIENCE INTO MENTORSHIP.

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Many articles have been written regarding our aging workforce. It is estimated that by 2020 approximately three quarters of our current nursing leadership will reach retirement age. With the aging of the baby boomers and the approximately half the nursing population reaching retirement age in the next fifteen years we are also facing a worldwide nursing shortage. Our challenge is to demonstrate the importance of nursing within the healthcare system, create versatile practices with both clinical and leadership components and to be proactive in guiding nursing's direction. It was decided that we would seek to develop our current nursing staff, expanding their practice to include portions of the Advanced Practice role.

A mentorship program for current staff was developed in an effort to provide challenges and opportunities for our current staff. It was designed to provide opportunities for individual growth and role enhancement. based on the educational levels of the individuals, current interests and developmental needs.

It was decided that a select group of nurses would be targeted for specific mentorship activities with the Advanced Practice Nurse based on their managers input and perceived interest. In actuality the nurses self selected based on their interest in growth opportunities. Nurses who were Masters prepared, or currently in Masters programs were strongly encouraged to participate, but all interested parties were accepted.

Mentoring was conducted in education and presentation skills, as well as in program development and policy/procedure development.

Products of this program include development of an orientation program for new employees, presentations at the New Jersey ELNEC Conference, and the development of a Basic Nursing Research staff education program.

The staff who participate in this program will evaluate its effectiveness with their managers and continue to create new goals for growth.

The mentorship program was developed as an initiative to create leadership opportunities, encourage decision making and fine tune critical thinking skills. An bonus of this program is an increase in the participating staff member's self fulfillment and it is also a strategy to promote staff retention.

### 3906

#### TRANSCULTURAL PALLIATIVE CARE: UNDERSTANDING THE DIVERSE NEEDS OF DIFFERENT CULTURES AND FAITH PRACTICES.

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Patients facing end-of-life encounter distressing symptoms such as pain, nausea, fatigue and constipation as well as a wide range of emotional and spiritual distress that many times exacerbates

physical symptoms. The provision of palliative care provides the opportunity for patient and families to achieve goals of care based on their beliefs, values, ethnicity and spirituality. Many times, health care professionals don't understand the varying needs of diverse patients seeking Oncology care.

An educational project was designed with an Oncology staff nurse completing her BSN from Niagara University. During her clinical preceptorship with a clinical nurse specialist at our NCI designated cancer center, five cultural/religious areas were explored: Hispanic, African American, Judasim, Islam and Amish traditions. A comprehensive literature search was conducted, patient interviews were conducted and religious experts shared faith-culturally significant clinical pearls.

The goal was to identify the changing and traditional needs and roles of diverse cultural/religious groups. Focus directed at improved communication, new sensitivity and role modeling with our staff fostered improvements. We conduct ongoing formal and informal educational training to ensure more culturally complete assessments in family meetings, counseling and supportive interventions that were being offered.

Core findings include simple principles as the need to be heard, respected and feel dignity from staff members. Specific cultural values, spiritual and ethnic and practices need to be incorporated into care planning while planning palliative care and end of life. We must continually strive to demonstrate improvements in providing care to diverse cultures/faith traditions.

Oncology nurses have the opportunity to learn about diverse cultures, religions and faith traditions that supports patients and families during their cancer journey as well as while facing a serious life limiting illness. Palliative care practices embrace all patients that we come in contact with and by having a better understanding of diverse groups; we can build trust in patients seeking Oncology care needs from early detection, diagnosis, as well as treatment through palliative care and end of life.

### 3907

**A MULTIDISCIPLINARY TEAM'S DEVELOPMENT AND USE OF RED FLAG TOOLS AND PROCESSES TO IMPROVE TREATMENT TIMES IN CANCER PATIENTS WITH FEBRILE NEUTROPENIA.** Michelle Schreiner, RN, OCN®, Cleveland Clinic Cancer Center at Hillcrest Hospital, Mayfield Heights, OH; Erika Hawley, RN, BSN, OCN®, Cleveland Clinic Cancer Center at Hillcrest Hospital, Mayfield Heights, OH; Molly Loney, RN, MSN, AOCN®, Cleveland Clinic Cancer Center at Hillcrest Hospital, Mayfield Heights, OH

Febrile neutropenia continues as a potential life-threatening emergency for patients following chemotherapy. Delays persist in patients seeking medical attention and receiving timely treatment (chart audits identified up to a seven hour delay). A multidisciplinary team was formed between the cancer center and ED to develop throughput processes and educational tools needed to provide febrile patients with safe passage during chemotherapy-induced neutropenia.

Th goal was to share multidisciplinary best practice model and tools for timely symptom recognition and evidence-based one hour benchmark of antibiotic administration to patients presenting with febrile neutropenia.

The team created an algorithm for managing neutropenic fever and standing orders. Staff and physicians were educated in the cancer center and ED about critical needs for timely management of febrile neutropenia and available tools. Oncology nursing staff were able to look beyond their point of contact in providing anticipatory guidance by developing two tangible take home tools for reinforcing education and quick action when a neutropenic fever occurs. A neutropenic fever red flag alert magnet and wallet card, outlining directions on what to do if febrile, were provided to the patient upon initial chemotherapy education. A neutropenic fever team process quickly rerouted febrile cancer patients from the ED to the cancer center for timely throughput. Staff were assigned to

the team daily with roles and responsibilities defined and a process checklist provided to achieve the one hour benchmark.

Multidisciplinary team collaboration between the cancer center and ED provided a vehicle for Oncology nurses and physicians to critically analyze their practice and develop pathways for timely assessment and treatment of this vulnerable population. Concurrent chart audits reveal a door-to-antibiotic time of less than the one hour benchmark in the cancer center after implementing the neutropenic fever team process and utilizing the educational tools. The identified patient population is treated effectively in a familiar and comfortable environment with known specialized nurses and trusted physicians.

Nurses are encouraged to implement this best practice model in different settings by utilizing the patient and staff tools provided. Research is needed to identify how throughput processes and educational tools improve clinical outcomes for cancer patients with chemotherapy-induced neutropenic fever.

### 3909

**USING EVIDENCE BASED PRACTICE TO STANDARDIZE THE EDUCATION OF NURSING STAFF AND PATIENT POPULATION ON THE SUBJECT OF PERIPHERALLY INSERTED CENTRAL CATHETERS.** Lisa Boris, RN, Roswell Park Cancer Institute, Buffalo, NY; Karen Dubel, RN, BSN, Roswell Park Cancer Institute, Buffalo, NY; Kimberly Venohr, RN, BSN, Roswell Park Cancer Institute, Buffalo, NY

An increase of catheter infection rates in patients with peripherally inserted central catheters (PICC) has had a negative effect on the oncology patient. This increase has prompted a team of nurses from several areas of the Institute to conduct an extensive literature research review to establish the best practice for PICC line care.

The goal was to develop standardized care guidelines which are understood by the patient and the nurse caring for the patient. These guidelines were obtained using a literature review regarding best practice of care for the patient with a PICC line. An anonymous survey was distributed to 125 oncology RN's in the inpatient and outpatient settings. A 76% response rate was collected and used as a quality improvement initiative.

After reviewing survey results it was obvious that improper PICC line care was being given to the patient. Or not given at all. The miscommunication between departments resulted in nurses feeling that patients were being taught line care by other departments visited by the patient. An educational brochure was developed immediately using literature review results for the education of staff and patients alike in the area of PICC line care. The brochure makes it possible for nurses and patients to be educated properly regardless of the department they are deployed to work or are visiting. Education for the patient and nurse caring for the PICC line patient has become standardized using this educational material.

A brochure for patient and nurse education has been reviewed, and copyrighted by the Institute for the standardized education in PICC line care. Policy changes have determined that education of PICC line care is to be given by the proper department and a quarterly infection control review will determine if PICC line infections have decreased after the use of the educational brochures have been implemented.

A team of nurses have changed the way PICC line care is delivered through the use of a literature review. Using evidence based practice techniques and policy changes PICC line care implementation has become standardized for all clinical staff and patients.

### 3911

**THE EFFECT OF AN ORAL CARE PROTOCOL ON THE INCIDENCE AND SEVERITY OF CHEMO-INDUCED ORAL MUCOSITIS.** Jennifer Hester, RN, AOCNS®, ACHPN, University Hospital/Health Alliance, Cincinnati, OH; Kyra Whitmer, PhD, RN, University of Cincinnati, Cincinnati, OH

Oral mucositis is a dangerous and painful complication of cancer therapy. Patients who develop oral mucositis experience



higher infection rates and chemotherapy dose reductions or delays. Oral mucositis also adversely affects patients' quality of life due to pain, nutritional compromise, and difficulty communicating. Although clinical practice guidelines recommend the implementation of systematic basic oral care, a critical need exists for studies to test the effectiveness of specific standards for oral care, including the use of an appropriate rinsing agent, frequency of brushing and rinsing, and escalation of care.

The purpose of this study is to evaluate the effectiveness of an evidence-based oral care protocol for patients receiving chemotherapy, which addresses the ONS Research Priorities of quality of life and evidence-based practice.

The conceptual framework that guides this study is the Iowa Model of Evidence-Based Practice to Promote Quality Care.

This study is being conducted in two phases. In phase one, data has been collected on oral care practices and the incidence and severity of oral mucositis in patients receiving standard dose chemotherapy. Phase two, which has not yet begun, will evaluate the effectiveness of an oral care protocol by comparing data collected before and after the protocol was implemented. For both phases, patients are followed over a period of eight weeks; demographic and disease-related data is collected, physical assessments (including oral assessment) are conducted, and patients complete surveys to evaluate oral care practices, mouth pain, and nutritional issues.

Twenty-two patients who have received chemotherapeutic agents known to cause mucositis completed phase one of this study. The sample represents 10 men and 12 women, 9 minorities, ranging in age between 44 and 78 years, with 9 types of cancer. Forty-two percent of patients developed moderate to severe oral mucositis, 45% reported experiencing mouth pain, and 32% had difficulty eating due to mouth sores. Only 54% brushed twice daily, as recommended, and of the patients who rinse, 92% used harsh commercial mouthwashes. Patients may benefit from the implementation of the proposed oral care protocol which, if proven effective, could lead to the standardization of basic oral care for patients receiving chemotherapy.

**Funding Source:** DAISY Foundation

### 3912

**MAINTAINING FACT ACCREDITATION: ONE PROGRAM'S EXPERIENCE OF AVERTING MADNESS THROUGH METH-OD.** Karen Dubel, Roswell Park Cancer Institute, Buffalo, NY; Lisa Privitere, RN, Roswell Park Cancer Institute, Buffalo, NY

FACT (Foundation for the Accreditation of Cellular Therapy) was established to promote high quality standards of practice for medical and laboratory management of blood and marrow cellular therapies. As of September 2008, 194/450 transplant centers were FACT accredited. The Blood and Marrow Transplant program at Roswell Park Cancer Institute (RPCI) is a centralized program with all aspects of FACT accreditation contained within a single campus: clinical, collection and cell processing is performed onsite. RPCI received their initial accreditation in 2003 and has successfully completed two subsequent accreditations.

The means through which the RPCI Blood and Marrow Transplant (BMT) Team achieved accreditation provides a model for success. The focus and intent of the Transplant Program's model is to remain current with FACT regulations while incorporating these standards into daily clinical practices known Standard Operating Procedures (SOPs).

The BMT Transplant Team developed a core group that was comprised of individuals who represented their respective areas of specialty. The core group members took ownership of the clinical, collection and processing standards; in this manner direct accountability was assigned for all aspects of the FACT Standards Manual.

The core group remains a standing entity to provide a means through which data collection, QA/QI and clinical outcomes are addressed and amended.

Direct patient care nurses are involved in the development and writing of applicable SOPs. It is through this involvement

that staff nurses become knowledgeable and more aware of and compliant with established SOPs. As part of the ongoing process, staff nurses participate in evaluating patient responses to SOPs and make recommendations for changes; this contributes to the data base collection.

The goal of the nurses as members of the BMT team and the team as a whole, is to focus on exceeding, not just meeting the FACT standards. The feedback from the direct care nurses establishes the critical feedback necessary to make changes that result in superior outcomes. The overall growth and constant improvement of the program relies heavily on these nurses and they are highly valued members of the team.

### 3913

**SELF-REPORTED ADHERENCE TO ERLOTINIB BY ELDERLY WITH LUNG CANCER.** Linda Morse, RN, MSN, Dana-Farber Cancer Institute, Boston, MA; Joan Lucca, RN, NP, AOCN®, Dana-Farber Cancer Institute, Boston, MA; Pat Ostler, RN, BSN, MHS, Massachusetts General Hospital, Boston, MA

The majority of oncologic, molecularly targeted drugs being studied and FDA-approved are oral agents. Promoting and facilitating accurate administration of investigational agents is a major responsibility of the clinical trial nurse (CTN). Research related to adherence is a key priority in the 2005-2009 Oncology Nursing Society's Research Agenda.

The goals are to determine adherence rates and factors associated with non-adherence, describe the CTN's role in facilitating adherence to oral cancer regimens, and assess the feasibility of developing a nursing role for the support of patients receiving oral agents outside of research protocols. This retrospective research project will review adherence data from an 80-subject clinical trial of erlotinib, for chemotherapy-naïve, elderly (>70 years old) patients with advanced non-small cell lung cancer. This investigator-initiated study was conducted at Dana-Farber/Harvard Cancer Center.

The framework for nursing practice in our institution is the Synergy Model which has as one of its core nursing competencies, the ability of the nurse to facilitate patient learning. Facilitation of learning is one of several competencies derived from patient needs or characteristics.

The CTN met with the study participants during monthly clinic visits for trial-related education and assessment. Patients documented self-administration of erlotinib in a drug accountability log that the CTN examined and compared with the amount of returned drug. Discrepancies were discussed with the patient and documented. Accountability logs will be retrospectively examined. Self-reported adherence rates and reasons for discrepancies in pill accountability will be compiled and reviewed to identify factors/barriers related to adherence. The role of the CTN in adherence will be evaluated.

The review of patient records is ongoing and our analysis of adherence in this clinical trial will be presented. In addition, we will provide an assessment of the CTN's role in the study and the feasibility of developing a similar nursing role when oral cancer drugs are prescribed outside of a research protocol.

**Funding Source:** Genentech, Inc.

### 3915

**MY TREATMENT JOURNEY: A PILOT STUDY OF PATIENTS' PERSPECTIVES ABOUT CHEMOTHERAPY INDUCED NAUSEA AND VOMITING (CINV).** James Street, PhD, Reagent, New York, NY; Rita Wickham, PhD, RN, AOCN®, CHPN, Rush University Medical Center, Chicago, IL

Oncology nurses frequently underestimate the frequency of CINV, and patients may not report symptoms because of concerns that chemotherapy doses will be reduced or delayed, or they don't want to 'bother' their care team. This is important because delayed CINV is now more common than acute CINV and may

cause dehydration that exacerbates nausea, altered activities of daily living (ADLs), and anticipatory or intractable CINV. When the patient returns to clinic, 2-3 weeks has usually passed, and time may decrease the accuracy of reporting of CINV.

This project was designed to assess the incidence of CINV and the impact of the NK1 receptor antagonist aprepitant in a private-practice based study.

The "My Treatment Journey" program was designed to aid oncologists and oncology nurses in assessing their patients' post-chemotherapy CINV control. Private practices were invited to participate in this program that focused on patients with breast cancer. Oncologists or oncology nurses in 76 practice sites enrolled 105 patients who completed an internet or telephone questionnaire before and after each of three cycles of chemotherapy. The program was designed to involve the entire care team (physicians and nurses). Antiemetics were prescribed at the oncology prescriber's discretion.

93% of the patients were women and 91 (87%) completed the questionnaire after cycle 1. Of these, 50 received an antiemetic regimen including aprepitant (A), 33 received antiemetics without aprepitant (NA), 5 were unsure if they received antiemetics, and 3 got no antiemetic. Patients who got A were significantly more likely to report no vomiting during the first 72 hours after chemotherapy than patients who got NA (96% vs. 67%;  $P<0.05$ ). Similarly, no/mild nausea was more likely in patients who got A than NA (88% vs 60%,  $P<0.05$ ), and low interference with ADLs was more likely in patients who got A than NA (84% vs 43%,  $P<0.05$ ).

CINV remains a significant problem for many patients, whether reported or not to their oncology care team. Including aprepitant with other antiemetics appeared to reduce acute and delayed CINV in patients receiving emetogenic chemotherapy and should be an included antiemetic from the first cycle on.

### 3916

**PROVIDING SUCCESSFUL CHEMOTHERAPY/BIOOTHERAPY TREATMENT FOR THE MENTALLY CHALLENGED PATIENT IN THE OUTPATIENT SETTING: PROVIDING A SUCCESSFUL TRANSITION.** Kelly Powers, RN, OCN®, Sinai Hospital of Baltimore, Baltimore, MD; Patricia Wilcox, MSN, RN, AOCN®, Sinai Hospital of Baltimore, Baltimore, MD; Jean Becker, RN, OCN®, Sinai Hospital of Baltimore, Baltimore, MD

As paradigms shift in the oncology arena, it becomes vital that outpatient settings become more flexible in their criteria for accepting patients. More and more, outpatient settings are asked to care for more complex and acute patients. A challenge that arose in the Outpatient Infusion Center at Sinai Hospital of Baltimore was the acceptance of two severely mentally-challenged patients. Both of these patients had received chemotherapy, radiation, and surgery in the inpatient setting. Questions arose regarding how successful treatment in the outpatient setting could be. Oncology nursing leadership from both the inpatient and outpatient settings agreed that we would accept the challenge.

The goal was to provide a safe, effective care environment for two mentally-challenged patients in the outpatient setting. Staff identified the following as potential barriers to a successful transition: communication, comprehension, advocacy, and monitoring.

Communication between the inpatient and outpatient staff was vital to a successful transition. The inpatient nursing staff collaborated with the outpatient staff to identify the patients' plan of care. The caregivers' involvement was crucial to successful communication and education of the patient. The patients' primary nurses became the point of contact for the patients' caregivers. Strong collaboration between nursing, social work, and outpatient nutritional services was also vital to the patients' care. The oncology nurses used many creative techniques to ensure successful treatment sessions.

Both of these patients had successful outcomes and have been able to continue treatment in the outpatient setting. Inpatient

admissions were avoided by providing appropriate symptom management at home. The patients' caregivers also expressed a positive experience. These patients provided the oncology nursing staff with a positive and rewarding experience in caring for mentally challenged patients.

As admission criteria to the inpatient setting become more stringent, the outpatient arena must learn to cope with patients of varying levels of acuity. Caring for these mentally challenged patients in the outpatient setting proved to be challenging; however, with the appropriate family support, staff collaboration, and nursing techniques, mentally challenged patients can be successfully managed in the outpatient setting.

### 3917

**ADVANCING EXPERTISE IN THE CARE OF ELDERLY PATIENTS WITH CANCER.** Lorraine McEvoy, RN, MSN, DNP, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY; Melanie Carrow, RN, BSN, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY; Mary Elizabeth Davis, RN, MSN, AOCNS®, Memorial Sloan Kettering Cancer Center, New York, NY; Linda Frierson, RN, BSN, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY; Melinda Gooch, RN, BS, Memorial Sloan Kettering Cancer Center, New York, NY; Jean Ricci, RN, MA, Memorial Sloan Kettering Cancer Center, New York, NY; Jody Roth, RN, MSN, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY

The fastest growing segment of the US population is individuals over the age of 65. This age group will account for approximately 20% of Americans by the year 2030. Aging is associated with increased rates of cancer, corresponding to an 11-fold greater incidence in persons over the age of 65 years versus those under age 65. According to the American Cancer Society by the year 2050, the number of cancer patients over age 85 is expected to increase fourfold. Related to the growing and aging population, there is a need to understand the treatment and care needs of elders.

This pilot study examined a method for advancing nursing expertise and analyzed the effectiveness of the approach. The project utilized multiple theoretical perspectives related to nursing practice and learning to formulate a conceptual framework in which the superior performance of a nursing expert would be achieved through Deliberate Practice.

The project assessed a conceptual framework based on Deliberate Practice in the training and development of registered professional nurses. The approach provided a three day educational offering to oncology nurses at Memorial Sloan-Kettering Cancer Center, who had no prior training in the geriatric oncology specialty. Data was collected and analyzed to assess the level to which outcomes of advancing expertise were demonstrated.

Nurses participating in the program completed a pre-test and post-test to determine knowledge and practice both before and after the educational intervention. Data was collected to examine nurses' assessment of elders for vulnerability and to grade the level to which outcomes of advancing expertise were demonstrated in nursing documentation.

The results of this pilot study support earlier work related to the application of Deliberate Practice and indicate that the methodology could have effectiveness beyond the specific population examined. Although replication studies are not commonly pursued in nursing, this longitudinal, non-experimental descriptive study should be replicated with a larger and more diverse sample of nurses, and a larger more diverse sample of patients. Future studies should examine the concept systematically, in order to establish this methodology as a standardized approach to advancing expertise within the professional nursing work force.

### 3918

**WHO SAYS YOU CAN'T HAVE PRIMARY CARE NURSING IN AN OUTPATIENT SETTING?** Lisa Boris, RN, Roswell Park

Cancer Institute, Buffalo, NY; Lynn Baase, RN, AAS, Roswell Park Cancer Institute, Buffalo, NY; Kimberly Peccia, RN, AAS, Roswell Park Cancer Institute, Buffalo, NY

The Upper Gastro-Intestinal (UGI) Center is an outpatient oncology Center which accommodates over 250 patients weekly. A multidisciplinary surgical/medical faculty and staff work together to treat the oncology patient with the best therapy available. A 2007 patient satisfaction survey revealed increasing dissatisfaction among the patient population regarding accuracy of appointments and availability of faculty and staff for telephone triage and questions.

In lieu of the satisfaction survey a reorganization of the Center was initiated. Staff and faculty would work as teams with the faculty member having a primary care nurse as lead for patient communication and treatment. The primary RN would direct a team working with him/her consisting of 1 to 2 LPN's.

Primary care nurses have taken on team leader roles for specific days in the Center, ensuring accurate information and communication of flow between all staff members and the patient. The primary care nurse has specific duties. (1) Obtain necessary information that is pertinent to the patients' visit. (2) Establish "real-time" communication to the care provider regarding phone calls placed by or concerning the patient. (3) Implement the plan of care established by the care provider, patient and the family of the patient.

A 2008 patient satisfaction survey demonstrated an increase in patient satisfaction and a decrease in Center wait times. Primary care nurses have voiced increased satisfaction with knowing their patients better than prior to the reorganization of the Center. Because of this new reorganization, primary care providers are furnished with robust information regarding the patient including test results, and patient needs.

Operational procedures have changed in a multidisciplinary outpatient clinic setting due to the needs of patients, staff and faculty. Being more familiar with the patients of the Center has enabled nurses to provide better care in a more efficient and timely manner along with giving the patient trusted and respected resources to advocate for their needs.

### 3919

#### PRE-OPERATIVE TEACHING: MAKING IT MORE EFFICIENT.

Carmela Hoefling, RN, MSN, APN-C, AOCNP®, Cancer Institute of New Jersey, New Brunswick, NJ; Leah Scaramuzzo, MSN, RN, C, AOCN®, Cancer Institute of New Jersey, New Brunswick, NJ

Patients/families need to learn complex, technical information about their surgery. Current nursing practice is to provide one:one education several times a day with patients prior to surgery. The fast-paced, high-volume clinic causes time constraints making it difficult to provide in-depth teaching. Patients are anxious and overwhelmed, hindering their ability to comprehend and retain information. Failure to comprehend this information may result in poor outcomes.

The purpose of developing the program was to give patients/families an overview of the pre-peri-post-operative process using evidence-based self-management strategies and support resources. Literature supports that effective education decreases anxiety, promotes early recognition of adverse events, improves outcomes, increases patient satisfaction, and empowers patients to participate in their healthcare.

The surgical nurse practitioner and nurse educator adapted the program template from the institution's radiation and treatment orientation programs. Curriculum included incision types, pre-admission testing, pain management, bowel preparations, operating/recovery room procedures, catheters, dressing care, activity restrictions, and side-effect management. Adult-learning principles support the program's structure including self-directed interactive teaching strategies using text, graphics, and audio. A surgical oncologist's input redirected the program to become

tumor specific rather than general given the differences for each surgical procedure; hence the program was revised to become gastrointestinal surgical specific. Prior to the pre-operative education visit, patients will receive a packet with various printed educational resources including access to the slide show (to be available on the Internet), CD-ROM, or the Center's patient library. This format allows patients/families to review repeatedly at their own pace, share with family, and identify questions, which can be clarified at their next appointment. During the pre-operative education appointment, questions are answered and content is verbally reinforced.

The pilot program is set to launch winter, 2009. It's been well received by the multidisciplinary team. At the conclusion of viewing the program, participants will complete written evaluations. Responses will be reviewed and modifications will be made.

Decreased funding and staffing limitations has made patient education increasingly challenging. Oncology nurses have a plethora of opportunities for developing patient education initiatives. This cost effective, low-budget module can be adapted to meet the needs for any surgical oncology practice.

### 3922

#### SYMPTOM CLUSTERS AND QUALITY OF LIFE IN KOREAN PATIENTS WITH HEPATOCELLULAR CARCINOMA.

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Hepatocellular carcinoma (HCC) is the fifth most common malignancy worldwide, causing about one million deaths annually. Patients with HCC usually reported multiple concurrent symptoms. Understanding the synergistic effect of concurrent symptoms holds promise to develop effective strategies capable of ameliorating specific groups of treatment- and disease-related symptoms so as to reduce the impact of cancer and to improve patients' quality of life (QOL). Limited studies have addressed symptoms and quality of life in patients with HCC yet the impact of possible symptom clusters on patients' QOL and mood has not been explored.

This study explored whether multiple concurrent symptoms are clustered into groups of symptoms and to explore the effect of symptom clusters on the quality of life (QOL) in patients with HCC.

The study was based on a conceptual framework of symptom clusters which emphasizes on the synergistic effect of symptom clusters.

A multivariate approach with a cross-sectional design was used in the study. The study was conducted in Korea. A sample of 180 patients with HCC at a medical center in Seoul Korea was recruited from July to October 2008. Patients completed a demographic questionnaire, a Symptom Checklist, the Hospital Anxiety and Depression Scale, and the Functional Assessment of Cancer Therapy-Hepatobiliary. Factor analysis and cluster analysis were used to identify symptom clusters based on the severity of patients' symptom experiences and patient subgroup. Descriptive statistics, t-tests, Chi-square and Fisher's exact test were also conducted.

Four symptom clusters were identified: Pain-Appetite, Fatigue-Related, Gastrointestinal, and Itching-Constipation. Two patient subgroups were identified through cluster analysis: high and low symptom group. Patients in the high symptom group had significantly poorer functional status and poorer QOL in all the domains with the exception of social well-being. The



differences between the two patient subgroups were not only statistically but also clinically significant. Patients in the high symptom group were also statistically and clinically anxious and depressed. Further research is needed to explore whether compositions of symptom cluster phenotypes vary over time and whether the associations of symptom clusters with QOL and mood are changing along the disease and treatment trajectory as well as symptom status.

### 3925

**CAN WE IMPROVE ADHERENCE TO ORAL ANTICANCER DRUGS? PILOT OF A PRACTICE-BASED NURSING INTERVENTION.** Joan Lucca, RN, MSN, NP-C, AOCN®, Dana-Farber Cancer Institute, Boston, MA; Anne Gross, RN, NEA-BC, Dana-Farber Cancer Institute, Boston, MA

Development of oral anticancer therapies is increasing at a rapid rate. Patients clearly prefer this form of therapy. There is evidence that for many patients, adherence to oral regimens is a challenge, with multi-factorial barriers. Research to promote treatment adherence is a key priority in the 2005-2006 Oncology Nursing Society's Research Agenda.

The aim of this project is to determine the feasibility of testing a practice-based nursing intervention designed to remove barriers challenging patient adherence to one oral therapy regimen.

The framework for nursing practice at our institution is the AACN Synergy Model for Patient Care, which has as one of its core nursing competencies, the ability of the nurse to facilitate patient learning. Facilitation of learning is one of several competencies derived from patient needs or characteristics.

The Nursing Practice Council at our NCI-Designated Comprehensive Cancer Center piloted a 24-item, evidence-based, patient questionnaire to identify problems/issues associated with adherence. One finding was that direct care nurses (DCNs) were rarely involved in the education of patients/families about oral anticancer agents. This is in contrast to patients who receive education about intravenous anticancer drugs from infusion room nurses. Based on these results and after literature review, the nurse practitioners, clinical trial nurses and DCNs in the thoracic oncology group met to develop a nursing intervention designed to improve adherence, patient/family understanding, and self-management. DCNs will provide initial education (written and verbal), drug accountability logs, telephone follow up and symptom management for ten thoracic patients starting erlotinib. During the first two months of treatment, the DCN will see the patient concurrently with the participant's provider. At the end of two months, patients will complete the questionnaire exploring adherence to therapy. Results of the adherence questionnaire, after the DCN intervention, will be compared to results from the previous group of patients who received no specific nursing intervention.

This practice-based nursing intervention is currently in progress. The findings from the project will be presented. Depending on the results, the intervention will be expanded to other disease programs at this institute.

### 3926

**A COMMUNITY COLLABORATION TO BRING ARTISTS TO THE BED SIDE IN AN ONCOLOGY SETTING.** Margarita Coyne, RN, Roswell Park Cancer Institute, Buffalo, NY; April Meyer, RN, BSN, Roswell Park Cancer Institute, Buffalo, NY; Ziya Bilen, MD, Roswell Park Cancer Institute, Buffalo, NY; Deborah Miga, Roswell Park Cancer Institute, Buffalo, NY; Lorelee Sessanna, DNS, RN, CNS, AHN-BC, University at Buffalo, Buffalo, NY

The use of artwork, performance art and art expression has long been a part of the RPCI patient care environment. The need to enhance the patient experience and mitigate the effects of prolonged hospital stays, appointment wait times, families waiting for patients undergoing surgery, chemotherapy infusions was noted as

an area rich for artists interventions to occur. The implementation of Artists-in-Residence was identified as a significant addition to the overall Arts program.

This program was identified as a means to help patients communicate their experiences and feelings about cancer treatments in a non-traditional manner where artists act as facilitators to that process. Nurses were instrumental in identifying the patient populations where the artists would share their program.

In collaboration with the University of Buffalo, Center for the Arts and Womens & Childrens Hospital of Buffalo, RPCI nurses, physicians and the volunteer office participated in multiple meetings to develop program plans, raise funds for the program, interview prospective artists and set up artist orientation programs. Staff nurses were active participants in encouraging patients to access the benefits of the program. The nurses became advocates for the program by identifying patients and families who would most benefit from an artists' expertise. Twelve artists completed a two week orientation in August 2008 and the Artists-in-Residence Program was finally implemented in September 2008; six were assigned to RPCI.

The program has been very well received by the Institute patients, staff and community. There has been a strong connection between patients, artists and nurses who act as catalysts to the referral process. The nurses actively promote access and special requests from patients and their families. Both quantitative and qualitative research projects are in development through RPCI, the O'Shei Foundation and the University of Buffalo School of Nursing.

The Artist-in-Residence program is a success. The collaboration of nurses, patients, artists and volunteers has propelled the program forward. The use of music, painting, storytelling, empathetic listening and "paint while you wait" aspects of the program have enhanced the patient and family members' experience at RPCI.

### 3928

**AQUATIC REHABILITATION FOR SHOULDER DYSFUNCTION AFTER BREAST CANCER—A SINGLE SUBJECT DESIGN.** Giselle Moore-Higgs, ARNP, AOCN®, University of Florida Shands Cancer Center, Gainesville, FL

Survivors of breast cancer face physiologic alterations to normal tissue and body functions that have a negative impact on quality of life. One such treatment related morbidity is altered shoulder mobility (ASM). Despite extensive documentation of its existence the literature, there is a paucity of data describing effective rehabilitation regimens including novel techniques such as aquatic therapy. Data from the orthopedic literature show that aquatic rehabilitation may provide an acceptable alternative to traditional physical therapy for bone and soft tissue injuries including post-operative rehabilitation.

The purpose of this study is to evaluate the effectiveness of a 4-week aquatic rehabilitation program on the symptoms of ASM in breast cancer survivors, and to evaluate the impact of such a program on the patient's perception of functional quality of life as impacted by ASM.

The Enabling Disabling Process, a framework found in professional rehabilitation practice defines rehabilitation as the process by which physical, sensory or mental capacities are restored or developed. This is achieved through functional change in the person but also through changes in the physical and social environment. Aquatic rehabilitation strives to reverse the disabling process and enable the individual to succeed in improving function.

The study will use a non-concurrent, multiple baseline, single-subject design. Subjects will be their own controls using the contra-lateral shoulder and arm function as normal values. A convenient sample of 3 patients treated for Stage I or II breast cancer with breast conservation therapy will be recruited. Demographic, oncologic, and therapeutic data will be compiled from the subject's medical record. Quality of life will be measured using the SPADI and the FACT-B+4 Quality of Life Scale. Shoulder function will be assessed using range of motion calculations, isotonic arm

strength, arm circumference, and grip strength. The intervention will consist of 10 shoulder exercises conducted in a therapy pool over thirty minutes, three times a week for a total of 4 weeks. Data analysis will be conducted using a visual graph analysis.

This IRB approved study is ongoing with a projected completion date of 12/31/2009.

### 3929

**EFFICACY OF CRYOTHERAPY ON ORAL MUCOSITIS IN AUTOLOGOUS STEM CELL TRANSPLANT PATIENTS: A PILOT RANDOMIZED TRIAL.** Prisco Salvador, RN, MSc, University Health Network/Princess Margaret Hospital site, Toronto, Canada; Doris Howell, RN, PhD, University Health Network, Toronto, Canada; Christina Bucu, RN, University Health Network, Toronto, Canada

Oral mucositis remains a significant problem for autologous stem cell transplant (ASCT) patients. The systematic application of an oral care protocol and oral cryotherapy in populations other than ASCT are the most effective non-pharmacological options available in the practice setting. The potential effectiveness of oral cryotherapy in tandem with an established oral care protocol in the ASCT population has not been adequately examined.

The purpose of this pilot randomized trial was to determine the efficacy of oral cryotherapy plus a systematic oral care on outcomes that include oral mucositis severity, mucositis-related pain, ability to eat and drink, tolerability of oral cryotherapy, and length of hospital stay (LOS) in ASCT patients.

An oral care intervention model was developed, based on Neuman Systems Model, to underpin this research project.

Patients were recruited from a hospital's inpatient unit. Patients in the experimental group were asked to suck on ice chips for 60 minutes—five minutes before, 30 minutes during, and 25 minutes after melphalan. All study patients received a standard oral care protocol. Each patient was assessed on day -1, 3, 6, 9, and 12 using a data collection tool developed and validated for the purpose of the study. Data analysis was completed using a SAS software package.

Forty five patients with multiple myeloma for ASCT were randomized to oral self-care alone (n=22) or oral self-care plus cryotherapy (n=23). Oral mucositis severity scores, in OMAS and WHO scales, for the experimental group were significantly different than the control group with p-values of 0.001 and 0.006 respectively. Mouth/throat pain scores for the experimental group was significantly different than the control group (p=0.009). There was no significant difference between groups on functional outcomes of food and fluid intake scores (p=0.91). Oral cryotherapy was well tolerated by patients in the experimental group. A one day shorter non-statistical difference in LOS was noted for the experimental arm patients. In conclusion, oral cryotherapy plus an oral self-care protocol may offer beneficial results over and above systematic oral care alone in ASCT patients.

### 3930

**A NEEDS ASSESSMENT OF A PUBLIC URBAN HOSPITAL'S CLINICAL TRIAL PROGRAM.** Donna Catamero, RN, CCRC, OCN®, NYU Cancer Center, New York, NY; Minerva Urate, MS, ANP, OCN®, NYU Cancer Center, New York, NY; Susan Moore, MSN, FNP-C, AOCNP®, NYU Cancer Center, New York, NY

A cancer institute that is partnered with a public institution provides the opportunity to offer innovative scientific and disease focused research programs to a patient population that is under-represented nationally in clinical trials (CT). Increases in the complexity of CTs and regulatory requirements, economic and staffing constraints, coupled with patient barriers inhibit trial accrual.

The purpose of this project is to identify and address system, health care team and patient barriers to enrollment of patients in CTs.

Interdisciplinary workgroups were conducted over a 5 month period. The following barriers to trial enrollment were identified: 1. Knowledge deficit regarding interdisciplinary team member's role in clinical trial process inhibited participation, 2. Fragmented system for accrual, administration of chemo and documentation, 3. Patient fearful of CT process, language barriers, transportation, and financial issues.

The team members implemented the following action plan: Research documentation forms were incorporated for standardization. Interdisciplinary members' roles were clarified using an adapted CT tracking tool that was previously developed for the NYU Cancer Institute. CT content was incorporated into educational sessions for interdisciplinary team members. Specific learning needs addressed where needed e.g. pharmacy in-serviced on home infusion pump, infusion nurses in-serviced in clinical trial process and role of CT nurse. Administration of chemo for patient enrolled in clinical trials moved from research building to oncology clinic. This created budget neutral position for clinic based RN to focus on accrual with a focus on the consenting process and patient education, this making clinical trial process less frightening. Hospitals patient navigators were incorporated into the team to help with translation and guiding patients through the healthcare system. Oncology attending participating more in the CT process e.g. being added to the 1572 on all CTs. This will ensure regulatory compliance on investigational drug orders.

Gaps in the CT program were identified. Collaboration among all team members created buy in and awareness of resources. This increased enthusiasm and utilization of expertise. Clinical trial accrual and attrition will be monitored.

Including stakeholders in the development and implementation of a CT program successfully fostered partnerships among members and growth of the CT program.

### 3931

**PROMOTING PATIENT SAFETY: IMPLEMENTATION OF A MEDICATION CALENDAR FOR HOSPITALIZED STEM CELL TRANSPLANT PATIENTS.** Nicole Mahr, RN, BSN, OCN®, UC Davis Medical Center, Sacramento, CA; Andrea Iannucci, PharmD, UC Davis Medical Center, Sacramento, CA; Carol Richman, MD, UC Davis Medical Center, Sacramento, CA

Medication errors result in adverse outcomes for stem cell transplant (SCT) patients. Although there are many causes for medication errors, the complexity of the medication protocol is frequently the reason for the omission of or prolonged administration of medications. On the SCT unit, the omission of graft-versus-host-disease prophylactic medications occurred. The results of these errors could have been fatal. Compounding the problem are insufficiencies with electronic order entry systems that are not designed to provide a comprehensive overview of all protocol medications or the timing in which they are given. In the outpatient setting, medication calendars have improved patient adherence to home-chemotherapy regimens.

The goal was to develop protocol-specific medication calendar templates that could be individualized to each patient's treatment plan. These calendars would provide the nurse a clear and comprehensive overview of the patient's total treatment plan and subsequently prevent errors and promote patient safety.

An oncology/stem cell transplant nurse and pharmacist developed medication calendars that were representative of all of the transplant team protocols utilized at a west coast university teaching hospital. The SCT team reviewed the calendars for content, accuracy, and clinical utility. Once approved by the SCT team, in-servicing was provided to all transplant unit nurses. Upon admission, the nurses are given the patient's personalized calendar. The oncology nurse, who developed the calendars, provided clinical monitoring to assure appropriate medication calendar utilization.

A Likert scale and open-ended questionnaire addressing nursing perceptions of the clinical benefits and limitations of the medication calendar are currently in progress. Descriptive survey

findings will be presented along with an analysis of medication errors pre- and post calendar template implementation.

While it is speculated that the medication calendar will be perceived by nurses as helpful in promoting patient safety, a discussion will address how an individualized medication calendar for hospitalized stem cell transplant patients influences nurses' clinical practice and medication error outcomes.

### 3935

**EXPANDING EXTRAVASATION KNOWLEDGE BEYOND CHEMOTHERAPY AND THE ONCOLOGY SETTING.** Kelley Gibson, RNC, BSN, OCN®, Good Samaritan Hospital, Cincinnati, OH; Robin Sander, RN, BSN, CCRN, Good Samaritan Hospital, Cincinnati, OH; Sarah Whelan, RN, BSN, Good Samaritan Hospital, Cincinnati, OH; Pamela Bolton, RN, MS, ACNPC, CCNS, CCRN, PCCN, Good Samaritan Hospital, Cincinnati, OH

Extravasation is a high risk complication of IV therapy which may lead to loss of tissue and/or limb. Traditionally, this has been a specialized competency in Oncology where numerous anti-neoplastic vesicants are administered. It was our cardiology colleagues that identified the need to understand how to improve the treatment of vasoactive extravasations. Through a collaborative effort, a comprehensive educational program was developed which provided information on vesicant drugs, extravasation identification and management across the organization. This was an exemplarily project for nursing as they are in a position to manage intravenous access and limit patient discomfort and promote safety.

The purpose of this project was to improve the care of patients with vesicant extravasations. To accomplish this end, all intravenous substances with vesicant potential were identified and evidenced-based treatments were established. It was recognized that medical and nursing staff commonly lack the knowledge to identify and manage these intravenous complications. Therefore, a comprehensive educational effort was developed and implemented.

A multi-service line group was convened to develop a program to address this important issue. The interventions included the development of a corporate policy and procedure, treatment algorithm, extravasation order set, and incorporation of a standardized documentation tool developed by the national specialty organization. All nursing staff across two facilities was required to complete a self-learning packet. Super user nurses attended didactic educational sessions and completed skill competencies. These are demonstrated annually to maintain competency.

Since the advent of this program, nurses are more aware of the vesicant potential of commonly used substances. There has been an increase in the number of identified extravasations and more timely treatment interventions and the documentation is more complete with specified instructions for follow-up by both nurses and patients. To date, there has been no loss of significant tissue or limb necessitating surgical intervention.

The creation of this program is an example of how basic knowledge of a common oncologic complication was expanded to all nursing specialty areas through a comprehensive collaborative process. The end result is that patient care has been improved through improved identification, rapid intervention, and ongoing follow-up to limit patient harm.

### 3936

**HIGH VISIBILITY FOR EVIDENCE-BASED NURSING.** Jo Han-son, RN, MSN, CNS, OCN®, City of Hope, Duarte, CA; Marcia Grant, RN, DNSc, FAAN, City of Hope, Duarte, CA

Changing from traditional intuition-based nursing practice to Evidence-Based Nursing (EBN) practice is necessary for improving patient care. We recognized in order to adopt this approach our unit-based staff/bedside RNs needed education and the opportunity to apply their new knowledge in a hands-on project. The institution-based Nursing Research Division developed a

three-year EBN project including: one-day workshops for oncology nurses; unit-based project development and implementation; and long-term EBN project office follow-up and support.

To increase EBN visibility and support the move to EBN practice, we created poster displays. Posters advertised the EBN effort within the institution; spotlighted unit projects; and acknowledged staff/bedside nurses who designed and implemented the projects. It was recognized while there were more than 30 ongoing EBN projects within the institution, only the staff, on units with ongoing projects, were aware of their existence and even then, some staff were unaware of their unit's project(s).

After 10 EBN unit projects had reportable findings, posters were developed. The first poster display was presented in the hospital cafeteria during the 2008 Nurses' Week. Following the Nurses' Week display, the individual posters were displayed on the nursing units. A unit received one to two posters to display. The posters were rotated monthly, giving all the units time to closely view the individual projects.

Poster visibility of the peer-initiated EBN projects has stimulated staff interest and engendered a sense of institutional support. Staff/bedside nurses are asking their unit managers and the EBN participants for more project information and how to get involved. An atmosphere of esprit de corps on unit teams is emerging. More staff have joined ongoing unit-based projects and EBN workshops enrollments have increased. Additionally, the multidisciplinary staff had the opportunity to view the posters resulting in a collateral benefit; during our recent JCAHO survey, the posters provided quality improvement data.

By exhibiting posters throughout the institution, we have elevated awareness of ongoing EBN projects and acknowledged the individual oncology nurses and the units that initiated projects. The poster display is a practical and effective approach in increasing EBN visibility throughout the institution.

### 3937

**NURSING INTERNSHIP PROGRAM: ASSISTING NEW NURSES IN THE TRANSITION FROM STUDENT TO ONCOLOGY NURSE.** Michelle Rumble, RN, MSN, MPH, PHCNS-BC, George Washington University Hospital, Washington, DC

Dealing with the emotional, psychosocial, and physical needs of cancer patients can be a daunting task for any oncology nurse. However, these tasks are considerably more challenging for new nurses. Often, new nursing graduates simply do not possess the proper knowledge, tools, and skills that are required to provide safe and effective care for oncology patients.

The purpose of the Nurse Internship Program is to assist new nurses with the difficult transition from student to oncology nurse.

The Nurse Internship Program is a didactic 10-week program, which consists of classroom and clinical time. In the classroom, information is provided in the form of lectures and classroom discussions. The goal is to create an open, comfortable and interactive environment where the interns learn from the instructor and from one another. The classroom sessions cover a variety of topics such as pain management, end of life care, oncology, and time management. These topics are selected based on the needs expressed by previous interns as well as what current literature recommends. During their clinical time, the interns are assigned to an experienced oncology nurse who will function as their primary preceptor. These preceptors are given a specific training course, offered by the Hospital's Education Staff. This training course provides lectures on leadership, teaching, helpful hints, and the logistics of being a preceptor. Throughout the Internship Program, the intern's progression is constantly monitored. This is achieved through formal evaluations as well as regular discussions between the intern, the preceptor, the Director, and the Nurse Educator.

This program is evaluated by using a combination of Likert scales and open-ended questions. Overall, the response has been very positive. Comments have included statements such as "Nice



way to enter nursing” and “Really liked the mix of class and clinical time.”

Due to the increasing demand for oncology nurses, retention in acute care settings is extremely important. Therefore it is vital for healthcare institutions to nurture new graduates so that they may grow into capable, knowledgeable, and compassionate oncology nurses.

### 3938

#### **LYMPHEDEMA: A QUALITY OF LIFE EDUCATIONAL NEED FOR PATIENTS AND HEALTHCARE STAFF.** Lisa Belling, RN, BSN, Franciscan Skemp, LaCrosse, WI

**Significance & Background:** Lymphedema remains a significant risk and a quality of life issue for patients. Patients may not receive appropriate education about risk or precautions resulting in difficult management. Lymphedema occurrence ranges from 5–60%. Frequently, a patient’s radiation and/or chemotherapy can be adversely affected if lymphedema occurs. Typically, intervention occurs once lymphedema has developed rather than focusing concerted efforts on patient education and exercise immediately post surgery. The lymphedema risk reduction education and symptom management project was developed to eliminate a fragmented approach for patients with breast cancer.

**Purpose:** The implementation of a timely intervention program for patients at risk for lymphedema will result in patients reporting symptoms earlier and the initiation of prompt treatment. Patient care staff will have expanded knowledge of the at-risk factors for upper extremity lymphedema and the importance of early intervention.

**Intervention:** In 2006, a comprehensive system-wide program to impact timely patient education was implemented. The program consisted of standardization of pre- and post-surgical patient education and post-op orders with automatic referrals to occupational therapy (OT). Baseline arm measurements were obtained prior to treatment, patients were instructed to continue measuring and tracking over time and subsequent measurement by nursing will continue for up to 5 years. In 2008, a mandatory education module on lymphedema precautions was implemented for staff. The module emphasized venipuncture and blood pressure precautions.

**Evaluation:** To date, the education module is 53% completed by staff with anecdotal feedback about increased awareness of lymphedema risk/management. Patient compliance with the automatic OT referral process is 90%. A within group design showed comparison values that were significant for decreases in patient arm measurements (thumb, wrist, above elbow) from baseline to 6 months (n=95) and 12 months (n=61).

**Discussion:** The establishment of lymphedema educational best practice guidelines has lead to increased nursing awareness in caring for patients at risk. Prompt identification of lymphedema risk and earlier patient treatment has occurred. This is a simple, low cost program that could easily be implemented in most practice settings.

### 3939

#### **INFORMATION NEEDS OF OVARIAN CANCER SURVIVORS: PRE EDUCATIONAL CONFERENCE AND PERCEPTION OF INFORMATION NEEDS MET IMMEDIATELY AFTER AND 30 DAYS POST CONFERENCE.** Frances Cartwright-Alcares, RN, PhD, AOCN®, NYU Medical Center, New York, NY; Eileen Fusco, APRN-BC, MSN, AOCNP®, NYU Medical Center, New York, NY; Wendy Budin, RN, PhD, NYU Medical Center, New York, NY; Stephanie Blank, MD, NYU Medical Center, New York, NY

An estimated 21,650 women in the US in 2008 will be diagnosed with ovarian cancer; the five year survival for all stages is 44.9%. The majority of survivors continue to experience physical and emotional concerns which generate information needs. An understanding of information needs is a requisite to planning interventions.

Consistent with ONS research priorities, this study examined the information needs among ovarian cancer survivors, and used this baseline to determine perception of information needs met immediately post and 30 days after an educational conference.

This study integrates components of Derdiarian’s cancer information needs model and Stress and Coping Theory. Information is a resource that enhances coping, aids adjustment, and is identified as a need by all cancer survivors. When information needs are identified, problem-focused and emotion-focused strategies can be targeted toward concerns.

Using a descriptive survey design, the revised TINQ for ovarian cancer was used to collect information needs data from 78 ovarian cancer survivors pre education conference and perception of needs met post-conference and 30 days later.

Participants reported their perception of information needs on a range of 1 (not important) to 5 (extremely important): disease control (M = 4.46, SD = .593), investigative tests (M = 4.05, SD = .894) treatment (M = 4.41, SD = .663), physical (M = 3.81, SD = .953), psychosocial (M = 3.57, SD = 1.01), indicating that information needs were high across all subscales, however, survival concerns (disease/treatment/tests) was higher than physical and psychosocial concerns. Participants reported perception of information needs met post-conference (N = 51) and 30 days after (N = 21) as follows: 69.2%, 61% (8 disease control items), 66.46%, 72% (10 treatment items), 71%, 74% (5 tests items), 46%, 60% (5 physical items), and 56%, 60% (9 psychosocial items). Information needs regarding survival concerns were more frequently met than physical and psychosocial. Some information needs were better met at 30 days suggesting that recommendations made at the conference were incorporated. Findings of this study provide information to better plan educational and supportive education.

### 3940

#### **SELF-ASSESSMENT OF PATIENTS’ KNOWLEDGE AND ADHERENCE TO ORAL CHEMOTHERAPY MEDICATIONS.** Mary Vinson, RN, MSN, OCN®, Texas Oncology, Dallas, TX; Kathy Thomas-Welch, LMSW, OSW-C, Baylor University Medical Center, Dallas, TX; Lonnie Wen, RPh, PhD, Pfizer Oncology, New York, NY; Betsy Stein, BA, CRC, Baylor Research Institute, Dallas, TX

Over recent years, there has been an increase in the use of oral chemotherapy agents for the treatment of different malignancies. The availability of oral chemotherapy agents that can be administered outside the hospital or infusion clinic presents new challenges to the healthcare practitioner in managing cancer treatment. Side effects and patient non-adherence to the treatment regimen can cause problems. Nurses play a key role in improving medication adherence

The purpose is to provide nurses and other health care practitioners with information regarding patient’s knowledge of their oral chemotherapy medication and patient’s medication taking behavior.

The information-motivation-behavioral skills model (IMB model) is used to describe the medication taking behavior of the patients. In the IMB model, the presence of both information and motivation can increase the likelihood of adherence.

A convenience sample from the Oncology/Hematology clinics of a large urban community cancer center will be used. Surveys will be collected from 1/21/2008 to 1/30/2009. Patients currently prescribed oral chemotherapy agents are asked to complete a 12 item survey that assesses knowledge regarding medication, barriers associated with adherence and medication taking behavior. This is an exploratory study and descriptive and univariate statistics will be used.

As of 12/10/2008, 131 patients completed the survey. The six most common oral chemotherapy medications include: hydroxyurea (29.1%), imatinib (10.2%), capecitabine (7.8%), thalidomide (7.1%); sunitinib (6.3%); and sorafenib (5.5%). Over 90% of respondents indicated they understood “why you are taking

the medicine," "how much to take," "when to take it," "where to keep the medicine," "if and when to get a refill," and "who to call with questions, concerns or side effects." Eighty-two percent indicated they "know about possible side effects and what to do about them," 12% "were not sure" and 4.6% indicated "no." Eighty-seven percent indicated they read printed materials about medication, and 80% understand the materials. Thirty-seven percent indicated they "skipped or forgot some doses" and 26.7% "took some doses late". Nurses can be instrumental in developing interventions that will provide support for adherence and understanding possible side effects of their medication.

**Funding Source:** Partially funded by Pfizer Oncology

### 3941

**CREATION OF HARMONIZED CASE REPORT FORMS (CRFs) AND VARIABLES TO FACILITATE DATA COLLECTION AND RESEARCH.** Dianne Reeves, RN, National Cancer Institute CBIIT, Rockville, MD; Elizabeth Ness, RN, MS, National Cancer Institute, Bethesda, MD

As cited in the Oncology Nursing Society's Manual for Clinical Trials Nursing (second edition) of 2008, there is a critical connection between advancements in cancer detection, prevention, and treatment, and data collected in clinical trials. Oncology research is enhanced through the use of a set of standard variables to collect, aggregate, analyze and report data. These elements populate Case Report Form (CRFs) that can be cloned to expedite clinical trial activation and data collection.

The purpose of this abstract is to share the process and outcomes to date of the cancer clinical research community efforts in achieving harmonized CRFs.

Through the work of the Cancer Biomedical Informatics Grid (caBIG) community, the creation of a portfolio of CRFs for NCI-sponsored trials has been underway since mid-2007. CRF priorities were established, and community broadcasts used to recruit workgroup members with clinical, biostatistical, and regulatory expertise. Existing CRFs were contributed by the community, including the pharmaceutical industry. Variables from a group of CRFs were partitioned into one of four groups: mandatory, conditional, optional, or not included in a CRF. After all variables for a CRF were finalized by consensus, data elements were created and registered in an NCI repository.

Eight workgroups have completed their work, with additional groups now underway. The results of the first eight groups were harmonized with data collection standards from Clinical Data Interchange Standards Consortium (CDISC) and other groups. After approval, the variables are assembled into CRFs (and completion instructions) available through NCI repository in a variety of electronic formats. The variables will undergo a rigorous change management process with regular review periods stipulated.

Identification and reuse of standards will enhance our ability to collect, analyze, manage, and improve the quality of data. Harmonized variables are being implemented now through a series of caBIG early adoption activities and a phased deployment plan that will result in the ability to reuse of a single set of variables to support clinical trial data collection and management. Our Nursing Research and Clinical Trials Nursing communities will benefit through an awareness and application of these efforts

### 3944

**DEVELOPING EDUCATION TO EXAMINE BEST PRACTICE AND IDENTIFY POTENTIAL PRACTICE DRIFT RELATED TO PATIENT IDENTIFICATION.** Allison Conyers, RN, BSN, OCN®, Duke University Hospital, Durham, NC; Pamela Watson, RN, BSN, BS, Duke University Hospital, Durham, NC; John Hillson, RN, OCN®, Duke University Hospital, Durham, NC; Catherine Williams, RN, MSN, FNP-C, Duke University Hospital, Durham, NC; Deborah H. Allen, MSN, RN, CNS, FNP-BC, AOCNP®,

Duke University Hospital, Durham, NC; Katrina Green, RN, BSN, OCN®, Duke University Hospital, Durham, NC

In oncology, we strive for safe and best practice yet risk for human error is unavoidable in a fast-paced high acuity setting. It is essential to be aware of these risks and ensure that process standards are clearly understood. Performance Improvement provided evidence that incidence of errors was increasing over time for two inpatient units. Therefore, a task-force was created to reinforce best practices to decrease risk for errors and increase patient safety, thus improving patient outcomes.

The task-force was charged with identifying areas for error through use of policy and standards to address practice drift. The primary drift involved procedures requiring two nurses in the identification/verification process. It was necessary to develop an educational program for those directly involved in patient care to raise awareness of drift and risk for error in a less threatening and more meaningful format in which to encourage best practice.

A number of areas were identified for potential drift of best practice which directly increase risk for the patient. It was determined that a case study presentation could best address the practice drift with policy and standards reviewed. It was decided that nursing staff from these units are better suited to present the educational format. Surveys prior to the presentation focusing on current practice to highlight drift are included with evaluation ongoing.

Data analysis will be completed in three months. It is anticipated staff will report satisfaction with case study presentation and identify their need to improve practice. Incidence of errors related to patient identification processes will be monitored for actual change in practice. The goal is that process standards will be followed and error decreased.

Increased attentiveness of daily operations and the effect of choices on patient safety are essential for performance improvement. Reviewing policies and standards and incorporating them into the culture of the unit will increase awareness of the importance of patient identification resulting in less errors and improved patient outcomes.

### 3945

**INNOVATIVE EQUIPMENT DESIGN PROMOTES IMPROVED OUTCOMES IN THE POST-OPERATIVE THORACIC POPULATION.** Donna Edmondson, MSN, CRNP, OCN®, Fox Chase Cancer Center, Philadelphia, PA; Diane Tunney, RN, OCN®, Fox Chase Cancer Center, Philadelphia, PA; Therese Innamarato, RN, OCN®, Fox Chase Cancer Center, Philadelphia, PA

Evidence-based research supports early ambulation in the post-operative thoracic patient decreases length of hospital stay, a decline in infection rates and home oxygen requirements.

Surgical pain, lack of endurance and cumbersome equipment are deterrents to ambulation in this population. The need for ambulatory friendly equipment and a system to communicate to the health care team that walking requirements were being met was evident.

The goal is to increase patient motivation to ambulate in a manner which decreases the physical stress to patients and staff imposed by bulky equipment. By providing visual cues, the patients will increase both length and number of walks taken as well as communicate their progress to the inter-disciplinary team.

Adoption of the thoracic walker took place in May 2008. It was customized to provide suction and oxygen if required. The design of the tall walker allows for changes in height to meet the needs of the individual patient thus providing proper body mechanics while ambulating. Arm rests and hand grips allow for patient comfort.

Feedback is provided to the patient by way of visual cues strategically placed on the unit. Plaques placed on the unit signify the amount of feet walked and elastic bands hung on hooks outside the patients' doorway signify the number of walks taken for the day; so named, "Strides of Success."

A study of 50 patients with stage 1A lung cancer who underwent VATS (Video-assisted Thoracoscopic Surgery) lobectomy from May 2008 through February 2009 is being evaluated. Inclusion factors will

be the pre-operative FEV1 (Forced Expiratory Volume) and Charlson Risk Index. This population will be compared to 50 patients that underwent VATS lobectomy January 2007 to January 2008.

This study will show that the evolution of a common place walker and using readily available resources for visual cues, have increased patient independence, sense of achievement, and improved patient outcomes.

### 3948

**BREAST CANCER SURVIVORS' EXPERIENCES OF LYMPHEDEMA-RELATED SYMPTOMS.** Mei Fu, RN, PhD, ACNS-BC, New York University, New York, NY

Lymphedema or persistent swelling is a serious chronic condition from breast cancer treatment. Approximately 30% of the 2.4 million breast cancer survivors in the US developed lymphedema. While significant prevalence of ongoing multiple symptom experience of breast cancer survivors with lymphedema have been reported, there has been little research examining how women perceive ongoing multiple symptom experiences.

The study aimed to describe symptom experiences of breast cancer survivors with lymphedema.

Descriptive phenomenology is the qualitative approach used to uncover breast cancer survivors' perceptions and to describe their symptom experiences.

A qualitative research design with a descriptive phenomenological method was used to develop a bracket, gathering data, and analyzing data. A sample of 34 participants were recruited in the midwest and eastern US. Three in-depth interviews were conducted with each participant, a total of 102 interviews were completed, audiotaped, and transcribed. Interview transcripts and field notes were the data sources for this analysis, which was part of three larger studies. Data were analyzed to identify the essential themes within and across cases.

Thirty-four female breast cancer survivors participated in the study: 10 were white, 11 were African-American, and 13 Chinese-American. Participants described their experiences of multiple distressing symptoms related to lymphedema. On a daily basis, the women experienced at least three to ten of symptoms along with swelling. Three essential themes were derived: (a) Living with perpetual discomfort; (b) Confronting the unexpected; (c) Losing pre-cancer being; and (d) Feeling handicapped. Distress was heightened when women expected symptoms to disappear but instead, symptoms became a perpetual discomfort. Moreover, distress was intensified when symptoms created sudden and unexpected situations or when symptoms elicited feelings of loss of pre-cancer being and feelings of being handicapped.

Findings suggest that symptom distress has temporal, situational and attributive dimensions. Care for breast cancer survivors with lymphedema should foster dialogue about living with symptoms including ways that symptoms can emerge, and unexpected situations can occur. Prospective studies are needed to examine symptom distress in terms of temporal, situational, and attributive dimensions.

### 3949

**A LONGITUDINAL EVALUATION OF ORAL MUCOSITIS FROM ONSET TO HEALING IN PATIENTS RECEIVING INTENSITY-MODULATED RADIATION THERAPY WITH/WITHOUT CHEMOTHERAPY.** Marilyn Dodd, RN, PhD, University of California San Francisco, San Francisco, CA; Maria Cho, RN, PhD, UCSF, San Francisco, CA; Christine Miaskowski, RN, PhD, UCSF, San Francisco, CA; Jeanne Quivey, MD, UCSF, San Francisco, CA

Oral mucositis is a major side effect of RT +/- CTX to the head and neck. A variety of instruments and techniques have been used to quantify oral cavity changes during treatment. Few studies have reported on the evaluation of oral mucositis using both subjective and objective methods.

A secondary aim in our study testing an innovative mouthwash is to increase our understanding of using subjective and objective methods for measuring oral mucositis, functional status, and weight changes over time.

Patients reported functional status, pain and investigators measured oral mucositis and weight at four times (beginning of RT [T1], onset of mucositis [T2], end of RT [T3], and healing of mucositis [T4]) over a 10 - 15 week period, using the Karnofsky Performance Status [KPS]) and the Oral Mucositis Assessment Scale (OMAS). The OMAS measures researcher-evaluated ulceration/pseudomembrane formation and erythema in specific sites in the mouth, and self-report by patients, rating severity of mouth pain, ability to swallow and chew.

Of 51 head and neck cancer patients enrolled, 3 never developed mucositis. Mean days to onset of mucositis was 15.58 (SD 6.85), and mean days to healing of mucositis was 77.86 (SD 40.1). Subjective pain, chewing, and swallowing scores were positively correlated with each other ( $r = .31 - .73$ ,  $p < .05$ ) and objective oral mucositis scores were positively correlated with each other ( $r = .49 - .77$ ,  $p < .01$ ), however, no significant correlations were obtained between the subjective and objective scores. In both the RT-only group as well as the RT+CTX group, weight significantly decreased from T1 to T4, and KPS significantly decreased from T1 to T3. RT+CTX patients showed lower KPS and greater weight loss from T1 to T4 ( $X=10$ lbs) compared to the RT-only group ( $X=3$  lbs), but neither was significantly different.

During RT+CTX, patients need more supportive care to maintain functional status and avoid weight loss. Lack of correlations between the subjective and objective scores is interesting in that they are measuring something quite different, which may provide some insight into underlying mechanisms.

**Funding Sources:** National Institutes of Health/National Cancer Institute

### 3950

**CROSSING CULTURAL BARRIERS IN THE COMMUNITY TO INCREASE PRE-INCIDENT SCREENING FOR DISADVANTAGED GROUPS.** Trina Scott, RN, BSN, OCN®, Moncrief Cancer Resources/UT Southwestern Medical Center, Fort Worth, TX; Melanie Senter, RN, Moncrief Cancer Resources/UT Southwestern Medical Center, Fort Worth, TX; Paula Anderson, RN, MN, OCN®, Moncrief Cancer Resources/UT Southwestern Medical Center, Fort Worth, TX; Georgia Vela, RN, WHNP, Moncrief Cancer Resources/UT Southwestern Medical Center, Fort Worth, TX; Bonnie Rose, RN, BSN, OCN®, Moncrief Cancer Resources/UT Southwestern Medical Center, Fort Worth, TX

The lack of minority response to free screenings prompted Moncrief Cancer Resources to restructure our efforts. Cultural differences and beliefs within a minority population can present challenges for nurse educators when promoting breast health. According to demographic data reported for Tarrant County in 2006, the minority population was estimated to be 38%. Within this minority population group, 24% were recorded to be Hispanic, and 14% were identified as African American.

The goal of our intervention was to provide education to these minority groups on breast health, as well as expand our breast health navigation program to the under-served groups of Tarrant County.

In response to the community educational need, Moncrief employed a Hispanic bilingual/bi-cultural nurse as a Breast Health Advocate. Moncrief also partnered with a lifetime board member from the American Cancer Society who is an African American community advocate, and breast cancer survivor. She assists our community liaison with recruitment of site locations targeting African American women for cancer screenings. In addition, the Early Detection Coordinator and the Breast Health Advocate have presented breast educational programs to local Girls Clubs representing predominantly multi-generational households. A



breast health educational DVD was given to each participant in their preferred language. A culturally appropriate educational presentation was given to a Parents as Teachers® group where 99% of the attendees were Hispanic.

UT Southwestern/Moncrief Cancer Resources has documented an increase in patients seeking information and assistance with their breast health issues and concerns from the community. Over 300 women have been navigated this past year who were referred to us from the community. Breast health issues were the primary concern in 33% of these women.

By crossing some cultural barriers to the under-served minority population in Tarrant County, we have expanded our ability to educate and navigate women who otherwise would not have the means to receive this vital nursing guidance.

### 3951

#### **A MODEL TO OPTIMIZE THE USE OF PUBLIC RESOURCES AND FOUNDATION FUNDS AND INCREASE PATIENT ACCESS TO HEALTH CARE.**

Melanie Senter, RN, UT Southwestern/Moncrief Cancer Resources, Fort Worth, TX; Paula Anderson, RN, MN, OCN®, UT Southwestern/Moncrief Cancer Resources, Fort Worth, TX; Trina Scott, RN, BSN, OCN®, UT Southwestern/Moncrief Cancer Resources, Fort Worth, TX; Georgia Vela, RN, WHNP, UT Southwestern/Moncrief Cancer Resources, Fort Worth, TX; Bonnie Rose, RN, BSN, OCN®, UT Southwestern/Moncrief Cancer Resources, Fort Worth, TX

UT Southwestern/Moncrief Cancer Resources provides pre-incident cancer navigation through integrated services of the university's mobile mammography program and our non-profit organization. Focus is on uninsured and underinsured women in culturally diverse, underserved areas of our community. Through grants provided by Susan G. Komen and the Moncrief Cancer Foundation, the number of mammography screenings and identification of patients requiring further diagnostics has grown exponentially. The oncology nurse-driven navigation program identified the need to add a bilingual, bicultural RN to respond to increasing patient referrals and abnormal mammography findings. The RNs were challenged with developing and implementing a process that would optimize the use of scarce funds and increase patient access to community resources.

The strength of this program is the creation and identification of a comprehensive algorithm to promote efficient use of appointment schedules, funds and staffing resources. Additionally, the process would foster accelerated access to health care by assisting patients with required documents and application forms.

A referral algorithm was developed using identified resources and qualifying criteria to assist in referring patients comprehensively to agencies on the basis of financial and resident status and the patient's ability to provide required documentation. The nurses also collaborated with navigators from other facilities to share solutions regarding the challenges of navigating patients toward a cancer diagnosis.

Patients have expressed ease of access to the diagnostic process. Results show fewer missed appointments, increased numbers of patients presenting to agencies with proper documentation and appreciation of the collaborative efforts undertaken. Six months of data analysis revealed that 185 patients were navigated through our program in a pattern of optimal distribution; 108 qualified for the Breast and Cervical Cancer Control Program, 43 qualified for funding assistance through the county hospital, 19 received diagnostic funding from Moncrief Cancer Resources, and 15 were referred to a physician of choice.

The application of the patient referral algorithm and intense collaborative efforts of area agencies and foundations have proved to be a successful method of optimizing resources in our area. The algorithm will be presented during the poster session.

### 3952

#### **INCREASING EARLY REFERRALS TO PALLIATIVE CARE THROUGH IMPLEMENTATION OF A STANDARDIZED SCREENING PROCESS.**

Elizabeth Wineland, RN, MSN, OCN®, Memorial Medical Center, Springfield, IL; Kelli Fisher, BSN, RN, Memorial Medical Center, Springfield, IL

Appropriate, timely palliative care referrals allow patients and families to benefit from available resources and enhance quality care. In our 524-bed Level I Magnet Hospital, the palliative care nurse identified that often referrals are received inconsistently, late, and/or on an emergent basis. Oncology nurses possess knowledge and skills needed to screen patients appropriate for palliative care. However, in our 27-bed Oncology unit, nurses lacked a standardized, evidence-based mechanism to identify and initiate palliative care referrals, especially at the end of life. Baseline data uncovered under-utilization as well. We discovered we did not have an efficient, consistent method for alerting the care team to the potential need for palliative care screening.

The purpose of this quality improvement project was to develop a screening process designed to trigger referrals earlier in hospitalization or the disease process, in order to provide the highest quality, most appropriate care for our vulnerable population.

The Palliative Care Screening Instrument (PCSI; Center to Advance Palliative Care) was piloted for 60 days by the professional nursing staff. Implementation included: standardized education for the nursing staff, initiating screening using the PCSI for each patient, and identifying appropriate patients for referral if they reach the scoring threshold of three. In the 60 days prior to implementation, only 7 referrals were made. In the 60 days which constituted the pilot, all 159 patients admitted were screened, with 90 deemed appropriate for initial referral. The palliative care nurse was notified, and a brief chart review was completed on all 90 patients involving 81 different physicians, not only oncologists. Of these, 30 were referred for palliative care by the physician.

The number of palliative care consultations increased more than 4-fold from the number of patients referred in the 2 months previous to the pilot period.

Implementation of a palliative care screening process using a standardized tool increased the awareness of early identification for patients who might benefit from palliative care services. These changes allow Oncology nurses to facilitate by increasing communication, coordination, and collaboration of the plan of care. Research is needed to determine the impact of early referral on outcomes.

### 3955

#### **HEMATOPOIETIC PROGENITOR CELL REACTIONS: A BMT UNIT QUALITY INITIATIVE.**

Samantha Combs, RN, BSN, CEN, Wake Forest University Baptist Medical Center, Comprehensive Cancer Center, Winston Salem, NC; Suzanne Carroll, RN, MS, AOCN®, Wake Forest University Baptist Medical Center, Comprehensive Cancer Center, Winston Salem, NC

Hematopoietic progenitor cells (HPCs) are cells administered to patients undergoing blood and marrow transplants. Symptoms of a possible reaction to a stem cell infusion include fever, chills, dyspnea, bronchospasm, oxygen desaturation, urticaria, hives, hyper and hypotension, bradycardia, tachycardia, chest pain, back/flank pain, nausea, vomiting or any other subjective symptom that the patient may express.

As a quality improvement initiative for our BMT unit, we tracked the nursing documentation and type of reactions associated with transplants for one year. The purposes of the audit were to ensure our compliance with documentation of reaction standards as well as to track any trends noted in HPC reactions. Oncology nurses working with BMT patients need to be knowledgeable in recognizing and treating adverse reactions to HPC infusions. The purpose of this poster presentation is to present the results of our quality initiative.

Audits were conducted on a quarterly basis for all BMT recipients. The audits verified completeness of documentation, type

of product infused, presence of reaction and type of reaction if it occurred. Interventions and appropriate MD/Nurse and Lab signatures were also confirmed. Our overall compliance for completing the form was 99%. Reactions occurred in 0-65% of all transplants for the year. The most common reaction demonstrated was nausea followed by chest pain/tightness. Interventions were required and implemented 54% of the time. RN/MD signature compliance ranged from 12.5-89%. Lab signature compliance was 92-100%.

Results of the audit clearly identified documentation deficiencies in RN/MD signatures compliance. As a result of the audits we are reviewing our policy and procedure for the reporting of HPC reactions to ensure all necessary steps are in place. We have implemented education on monitoring for adverse reactions during HPC infusions and are also monitoring the reaction forms more closely at the time of the infusions to ensure more complete documentation.

Tracking adverse reactions to HPC components is an important component to BMT nursing care. Identifying trends will enable BMT nurses to identify and prepare patients who may be more prone to reactions to their HPC infusion.

### 3956

**FACT OR FICTION: AN IMPLANTED VENOUS ACCESS DEVICE WHEN NOT IN USE MUST BE FLUSHED MONTHLY TO MAINTAIN PATENCY?** Ruth Gholz, RN, MS, AOCN®, Cincinnati VAMC, Cincinnati, OH; Nancy Whitehill, RN, MSN, AOCNS®, CRNI, Mercy Health Partners, Fairfield, OH; Kelly Franer, RN, MS, OCN®, Mercy Health Partners, Cincinnati, OH

**Significance and Background:** The use of implanted ports in the ambulatory oncology setting has become a standard of care. Policies and procedures are written using evidence in the management of these devices. In 2006 Cancer Care Ontario completed and published "Managing central venous access devices in cancer patients: a clinical practice guideline," an evidence based series report. This guideline recommends that an implanted venous device (e.g., Port a cath) is flushed with 5ml 100u/ml heparin q4 weeks when the port is not in use.

On review there was no scientific data to support this recommendation other than the manufacturer.

The purpose was to describe practices in three ambulatory hospital based practices in Cincinnati, OH, that have challenged this recommendation and flush implanted venous ports every two to three months.

**Methods:** Random reviews of 30 charts per clinic setting were completed. Criteria for inclusion were oncology patients with solid tumors and implanted venous ports that had completed their course of chemotherapy and needed port maintenance.

**Analysis:** Ninety patients received flushing of venous port every two to three months with less than five patients with a port flush longer than a six month interval.

**Findings:** Various types of implantable venous ports were utilized, each clinic had different policies and procedures, with one clinic using a saline flush and two clinics using the standard heparin flush. The outcomes of this review will be described including type of venous port, frequency of flush, blood return, trouble shooting and any complications as well as patient satisfaction.

**Implications for Nursing:** Maintenance of venous ports requires oncology nurse's coordination of visits and trouble shooting of problems. If the patient visits were reduced to every three months the cost of health care would decrease, infections would decrease and precious nursing time would be maximized. This is one small review and warrants further investigation. We challenge the manufacturers of these products to publish the rationale used for venous port maintenance recommendations.

### 3957

**HOW DO WOMEN WITH BREAST CANCER RATE COGNITIVE FUNCTION? THE IMPORTANCE AND IMPLI-**

**CATIONS AS REPORTED BY 1,071 PATIENTS IN A WEB-BASED SURVEY.** Patricia Hollen, PhD, RN, FAAN, University of Virginia, Charlottesville, VA; Beverly Davis, RN, MN, AOCN®, NexCura, Seattle, WA; Jennifer Horigan, NP, RN, OCN®, North Shore-LIJ Health System, Lake Success, NY; Judy Petersen, RN, MN, AOCN®, NexCura, Seattle, WA; Kenda Burg, NexCura, Seattle, WA; Richard Gralla, MD, North Shore-LIJ Health System, Lake Success, NY

Difficulties in cognitive function, specifically memory or the ability to concentrate, have been the subject of research and controversy. Cognitive difficulties have been associated with chemotherapy and other treatments for breast cancer. While many causes of these problems have been proposed, including biological and psychological factors, strong evidence is lacking.

In this survey, we sought the opinions of women with breast cancer to ascertain how these women rated the ability to concentrate among 21 major issues, based on a quality of life change model for cancer.

We used the established patient base of the web-based NexCura information resource to survey registered patients with breast cancer. Demographic stratifications included disease stage, age, menopausal status, time since diagnosis, prior/current treatment with surgery, RT, chemotherapy, hormonal, targeted, and CAM approaches. 1,071 women (median age 53, 65% stage I, 43% > 2 years since diagnosis) completed the anonymous web-conducted survey. Patients ranked the importance of 21 issues on a 5-point scale. Issues included general, physical, functional, psychosocial and summative items.

The 1,071 women ranked the ability to concentrate as one of the four most important factors, as determined by those who rated it in the top category (very important, 65%) and the top 2 importance categories (97%). It followed only overall quality of life in the "very important" category, and was tied with maintaining independence and the ability to sleep in the sum of the top 2 importance categories. Analysis is being conducted to determine if ratings by breast cancer subsets (newly diagnosed, on treatment, NED, hormonal or non-hormonal treatment, metastatic disease, survivors) will differ.

These results from one of the largest groups of breast cancer patients surveyed to date support the belief that women value the ability to concentrate most highly. Interference with concentration can affect nearly every aspect of functioning and quality of life, and can have an impact on quality decision making. Regardless of whether causes of cognitive impairment have supporting evidence, oncology nurses should be aware of the level of importance of concentration to patients with breast cancer and report symptoms related to executive function.

**Funding Sources:** Philanthropic funds

### 3958

**PREVALENT SYMPTOMS IN SLEEP-DISTURBED VERSUS NON SLEEP-DISTURBED BREAST CANCER PATIENTS DURING AND 4 TO 6 MONTHS AFTER CANCER TREATMENTS.** Maria Cho, RN, PhD, University of California San Francisco, San Francisco, CA; Marylin Dodd, PhD, UCSF, San Francisco, CA

Sleep disturbance has been a symptom of high prevalence in breast cancer patients which, when left untreated, has negative consequences. However, few studies have reported on the prevalence of symptoms in breast cancer patients based on sleep disturbance at the beginning of chemotherapy, through to 4-6 months after cancer treatment.

The study sought to evaluate prevalent symptoms in sleep-disturbed patients and non sleep-disturbed patients at the beginning of chemotherapy (T1), at the end of cancer treatments (T2), and 4-6 months after cancer treatments (T3).

The present study is a secondary analysis of data collected as part of a longitudinal, randomized controlled trial that tested the effectiveness of a systematic exercise intervention for cancer treatment-related fatigue and associated symptoms. Using intent-

to-treat analysis, the trial failed to show a significant effect. The General Sleep Disturbances Scale (GSDS) and Symptom Checklist (0-10 numeric scale) were used. A cutoff score of GSDS is 45 (0-147); GSDS > 45 indicates sleep disturbance. Both scales have been used in cancer patients. Descriptive statistics were used.

A total of 112 breast cancer patients is divided by their general sleep disturbance scores (greater than 45=sleep disturbances). Fifty-three women (48.6%) were assigned to the Sleep-Disturbed Group. More than half of the Sleep-disturbed Group experienced 10 symptoms at T1, 7 symptoms at T2, and 5 symptoms at T3, compared to the NonSleep-disturbed Group (4 symptoms, 3 symptoms, and 0 symptoms at T1, T2, and T3). Four symptoms (thirst, difficulty concentrating, memory problems, and mood changes) were more than 50% present at all three points in the Sleep-disturbed Group. The Sleep-disturbed Group consistently experienced a higher prevalence rate and more symptoms than the Non Sleep-disturbed Group. Assessing baseline level of sleep disturbance is a tool for nurses to provide supportive care for sleep-disturbed patients who experience more symptoms in order to help them improve their quality of life and functional status.

**Funding Sources:** National Institutes of Health/National Cancer Institute

### 3959

**COACHING FOR SUCCESS: TOOLS TO ENHANCE CRITICAL THINKING AND EFFECTIVE COMMUNICATION.** Mary Louise Kanaskie, RN, MS, RN-BC, AOCN®, Penn State Hershey Medical Center, Hershey, PA; Patricia Booth, BSN, RN, Penn State Hershey Medical Center, Hershey, PA

Nurses in leadership positions play a major role in assisting the nursing staff to identify and manage changing patient situations. In the coaching role, it is important to ensure that staff not only have the knowledge to care for complex oncology patient populations but that they have the tools to assist them to think critically and communicate effectively.

In an effort to ensure patient safety on a busy inpatient transplant unit, nursing leadership identified the need to improve problem-solving skills among the staff. The goal was to help staff to make reliable predictions regarding patient status and to identify subtle and overt changes in the patient's condition. By utilizing critical thinking skills, the expected outcome was for staff to intervene skillfully in unpredictable or changing patient situations.

An advanced preceptor class was conducted to provide an opportunity for preceptors to develop strategies to promote critical thinking among the new oncology nurses. SBAR techniques were used in simulation exercises. SBAR (situation, background, assessment, and recommendation), a technique often used for "hand-off" communication, has broader application in decision-making in many patient care situations. The essential principles of critical thinking are similar to those necessary to implement SBAR techniques: problem identification, statement of known facts, examination of "facts" for truth, and generalization of data as needed. In addition, other concepts relevant to critical thinking are also captured in the SBAR framework: interpretation, analysis, evaluation, inference and explanation. The simulation exercises included real life patient care situations that occurred on the unit.

Experienced preceptors, charge nurses, and clinical head nurses found the simulation exercises helpful in guiding their own clinical decisions, as well as, enhancing their effectiveness as coaches. In addition, graduate nurses were pleased with their ability to use the framework for problem-solving critical patient situations. Evaluation of the approach in helping to enhance coaching activities and produce positive patient outcomes is ongoing

Monitoring and ensuring the quality of patient care practices will continue to direct nursing leadership activities. The program described provides oncology nurses at all levels with the tools necessary for effective problem-solving and coaching across many oncology settings.

### 3961

**A PARTNERSHIP WITH KOMEN AFFILIATE FOR BREAST CANCER SURVIVORSHIP CARE PLANNING.** Joanne Lester, PhD, ANP, BC, AOCN®, James Cancer Hospital & Solove Research Institute, College of Nursing, Columbus, OH

There are an estimated 2.3 million living breast cancer survivors in the U.S. An individual is a cancer survivor from the time of diagnosis, through the rest of their life. The transition from active treatment to post-treatment is crucial to the establishment of long-term health. Cancer survivors must be given knowledge of their risks with a follow-up plan of care that provides promotion of a healthy lifestyle, surveillance for cancer recurrence, and management of physical and psychological effects of the cancer experience.

The Central Ohio Breast Cancer Survivorship Initiative is intended to create a professional and lay framework that promotes key IOM and NCTA initiatives relative to breast cancer survivorship.

A paradigm shift with a new approach for the delivery of care to breast cancer survivors is required. Interventions include: (1) Multidisciplinary Advisory Board; (2) 1 professional (with CE credits) and 1 lay educational symposium; (3) communication and mentorship with institutions and health care providers in the Komen designated 23 counties (4) dissemination of educational tools, resources, and template for survivorship care planning (5) mentoring of initiation/implementation of survivorship care plans (6) dissemination of evidence-based educational tools (ONS PEP cards) (7) development of quality assurance indicators (8) inquiry of nursing and medical school education about survivorship; and (11) dissemination of project outcomes.

The establishment of survivorship champions has been necessary to delineate role responsibility as well as focus attention on survivorship care planning. Professionals that provide care to breast cancer survivors have increased their knowledge and incorporate important survivorship initiatives into their daily practice setting. The use of ONS PEP has reduced geographical and educational barriers. A statewide nursing educational initiative has been proposed.

Focused leadership and coalition of professionals in this initiative will continue to provide resources and expertise, avoid unnecessary duplication of efforts, and improve overall delivery of survivorship care. This is an innovative approach to use local Komen resources and regional experts to educate each other.

### 3963

**REDUCING PREVENTABLE CODES IN THE INPATIENT HEMATOLOGY ONCOLOGY POPULATION . . . WHEN YOU ARE MORE THAN TEN MINUTES AWAY FROM AN ICU.** Barbara Gobel, RN, MS, AOCN®, Northwestern Memorial Hospital, Chicago, IL; Patricia Jean Murphy, RN, MS, MBA, Northwestern Memorial Hospital, Chicago, IL; Mark Schumacher, MBA, Northwestern Memorial Hospital, Chicago, IL; Sigmund Weitzman, MD, Northwestern Memorial Hospital, Chicago, IL

Multiple barriers exist to proactively and safely transition clinically appropriate oncology patients to an ICU setting. Despite these barriers the oncology units transfer 5.43% of their patients to an ICU setting. In addition, these units experience preventable and true codes at a rate of 0.095 codes per transfer: about 2 codes per month. The Oncology Department moved to a new facility that has added physical distance (a 10 minute one way trip) to the list of transfer barriers.

The purpose of this evidence-based practice project was to develop a protocol to more proactively identify and intervene on critically ill oncology patients and to decrease preventable and true codes by at least 33%. Low preventable code rates serve as a primary indicator for a safe and effective ICU transfer process.

In researching tools for proactive identification of at-risk or septic patients we identified the modified early warning score (MEWS) and systemic inflammatory response syndrome (SIRS) criteria; both already in use in other areas of the hospital. The MEWS was chosen. This is the tool that our Rapid Response Team



uses in their identification of critically ill patients. No studies had evaluated the MEWS or SIRS in the Hem/Onc population. We tested the tools using historical vitals/lab data from 31 cardiac or respiratory arrests and another 31 patients that did not code, transfer to the ICU or expire. We developed a Hematology/Oncology MEWS Sepsis Protocol that was interdisciplinary in nature.

In the first 6 months since protocol implementation, the preventable code rate dropped 80% (statistically significant) from a baseline 0.60 codes/100 discharges to 0.11 codes/100 discharges. The Hem/Onc team now reviews every code in an interdisciplinary meeting and leverages a control plan to sustain results.

In addition to reducing preventable codes we learned as a team about managing change: involve all key stakeholders from the beginning, create a common language, the Rapid Response Team is an invaluable resource, and long-term sustainability requires vigilance, measurement and follow-up. Working collaboratively, nursing is able to effect profound changes on a complex system of care.

### 3964

**ACHIEVING CONTINUOUS EXCELLENCE: HOW ONE OUTPATIENT ONCOLOGY CENTER MAINTAINS ACCREDITATION READINESS.** Irene Fujimoto, MSN/MHA, OCN®, Alta Bates Summit Comprehensive Cancer Center, Berkeley, CA; Beverly Hart-Inkster, BSN, OCN®, Alta Bates Summit Comprehensive Cancer Center, Berkeley, CA

All healthcare facilities that strive for the Joint Commission (TJC) accreditation face the inevitable question of how to maintain a level of standards compliance on a daily basis as opposed to "gearing up" for the triennial survey. Since 2007, the Joint Commission no longer provides advance notification of survey dates. In any improvement change process such as being at a continuous state of compliance, stakeholders must insure that the changes integrate into the culture of the organization. The alternative is a return to the unacceptable practices that were present before the improvements and a potential for losing accreditation.

In order to maintain a state of continuous standards compliance, the Alta Bates Summit Comprehensive Cancer Center (ABSCCC) organized an interdisciplinary team of staff representatives from each area of this outpatient oncology department. Under the acronym, ACE Team (Achieving Continuous Excellence) borrowed from a similar managerial committee in the host hospital, the staff, not just leadership, maintains scrutiny for any deficiencies. By tapping into the commitment of frontline staff, all employees of the Cancer Center became accountable for survey readiness.

Each month, ACE Team members conduct environment of care surveys in their areas and question peers on standards topics such as National Patient Safety Goals, infection control and HIPAA. Clinical staffs also review a sampling of medical records to ensure completeness of documentation. When Team members identify discrepancies, corrective action occurs immediately.

Monthly surveys demonstrate a high level of standards compliance in the 85 to 95% range. Monthly Team meetings provide a forum for voicing staff concerns and areas that need addressing by leadership and administration.

Accreditation by TJC affects healthcare organizations' ability to receive Medicare reimbursement and thus, has crucial implications for the organizations' ability to provide services. Shifting away from a mentality in which the impending accreditation survey is a crisis, and involving frontline staff in the process of maintaining readiness becomes the logical and healthier way to practice healthcare. At ABSCCC, practicing according to TJC standards on a continuous basis eliminates the crisis mentality and creates a safe environment to provide oncology care for both patients and clinicians.

### 3966

**FIRSID CHATS WITH THE ONCOLOGY TEAM: AN OVERVIEW OF COMMON CANCERS.** Susan Partusch, MSN, RN, OCN®, Good Samaritan Hospital/TriHealth, Inc., Cincinnati,

OH; Kim Blanton, RN, BSN, OCN®, Good Samaritan Hospital, Cincinnati, OH

Non-oncology healthcare providers at Good Samaritan Hospital expressed a need for basic cancer education. It was determined that all members of the multidisciplinary team could benefit from increasing their understanding of cancer in order to assist them in caring for their patients who had cancer.

Multiple disciplines were identified as interfacing with cancer patients in the hospital and influencing their outcomes. The Fireside Chats were an attempt to educate rehabilitation therapists, non-oncology nurses, social workers, and pharmacists about cancer.

A series of eleven programs was presented over a three month period, with each program highlighting a different type of cancer. Each one hour program included a presentation by a physician discussing the disease and treatment. This was followed by an oncology nurse discussing the nursing management of the patient undergoing treatment. The research staff member described open clinical trials for a patient with that type of cancer. The name, Fireside Chats, reflects the informal atmosphere of the forum. All programs were scheduled in the late afternoon to accommodate shift changes and the dinner hour. A free dinner and continuing education credits for therapists, nurses, and social workers also encouraged participation.

Attendance at the programs continued to increase as the series progressed. The audience was actively engaged with an enthusiastic question/answer period at the end of each program. Evaluation scores consistently exceeded 4.6 on a 5.0 scale. Narrative comments on the evaluations were extremely positive and commented on the volume and quality of cancer information shared. Total participation for the series approached 500 persons. Program attendance and evaluations alone supported the need for, and interest in oncology education.

Oncology physicians gained visibility and validated their reputations for current understanding of disease states and treatment options. Oncology nurses developed professional presentations based on current literature and evidence based practice. The nurses were recognized as knowledgeable and valuable resources, and earned clinical points for their presentations. There was also an increased understanding of clinical trials and the nurses' role in encouraging participation.

Due to the popularity of this project, three additional programs were implemented, and a new series for the next year planned.

### 3968

**ORAL CHEMOTHERAPY UPDATE—THE GERMINATION OF A CONCEPT.** Carol Blecher, RN, MS, AOCN®, APNC, Aptium Oncology/Trinitas Comprehensive Cancer Center, Elizabeth, NJ; Jeanette Barefoot, RN, MSSL, OCN®, Aptium Oncology/Trinitas Comprehensive Cancer Center, Elizabeth, NJ; Julio Fumoso, RPh, Aptium Oncology/Trinitas Comprehensive Cancer Center, Elizabeth, NJ

The Oral Chemotherapy program was begun last year, due to the increased development and use of oral anticancer agents. Our goal at that time was to provide our patients with education and support to promote adherence to their oral chemotherapy regimens. The program has continued growing over the past year with a total of eleven patients being followed at the time of this submission. We continue to educate the patients at the time of initiation of the treatment plan. We also provide them with individualized calendars and pill boxes, so that they can easily track their medication. Pill counts are performed on a weekly or bimonthly basis.

The program sought to provide safe and effective interdisciplinary care for patients receiving oral anti cancer regimens.

As new clinical employees join the staff they are educated regarding the oral anti cancer program during their orientation. Physicians refer all patients to the Advanced Practice Nurse who provides education, pill boxes and calendars. The patients are followed on a regular basis and pill counts are monitored, as are treatment related side effects. We are still working on the

development of an education program for the local pharmacists, as the first program did not generate a great deal of interest due to the lack of continuing education credits. We have developed a patient and physician satisfaction questionnaire over the past year to evaluate the perceived effectiveness of the program.

Patients and physicians have expressed satisfaction with the program. Pill counts for most of the patients have been accurate based on prescribed dose. Patients have also developed their own calendars and they are diligent in marking off medication on their calendars.

This program appears to have been effective in promoting adherence to oral anti cancer regimens. It was presented to the staff of Aptium Oncology as a quality care initiative. Individuals from the Oncology Round Table have had a conversation with us regarding the program, and we are planning an article in Oncology Issues. The plan is to continue to expand this program as a quality care initiative and best practice at TCCC.

### 3969

**UNDER-REPRESENTATION OF AFRICAN AMERICANS IN CANCER CLINICAL TRIALS: APPLICATION OF THE PRECEDE-PROCEED FRAMEWORK.** Terease Waite, BSN, RN, JD, University of Pennsylvania Medical Center, Philadelphia, PA

As defined by the National Institutes of Health, a cancer disparity represents adverse differences in cancer incidence, prevalence, mortality, survival burden, or other health-related conditions. For the years 1974 through 2003, the Surveillance, Epidemiology, and End Results Programs (SEER) indicated that, though a minority population in the U.S., African Americans outpace Caucasians in cancer incidence and cancer mortality, while lagging in cancer survival. The significant under-representation of African American cancer patients in cancer clinical trials is a little recognized, but serious public health problem. Because cancer clinical trials improve therapeutic outcomes, advance treatment, and promote prevention, progress in the treatment of cancer and reduction of cancer disparities in African Americans is best accomplished by recruitment and accrual of more African Americans in cancer clinical trials. Research indicates that the underpinnings for cancer disparity among African Americans is multifactorial.

The aim of this poster presentation is to (1) discuss the applicability of the PRECEDE-PROCEED framework for designing, implementing, and evaluating proposed interventions for reducing cancer disparity by increasing recruitment and accrual of African American cancer patients in cancer clinical trials and (2) outline a proposed, combined qualitative/quantitative research design for execution of Phase I of the PRECEDE-PROCEED framework.

PRECEDE-PROCEED employs a multifactorial analysis which will encompass the biologic, epidemiologic, sociologic, political and economic factors affecting African American cancer patient participation in cancer clinical trials.

Visual presentation of (1) the PRECEDE-PROCEED framework as applied to reduction of cancer disparity in African Americans, (2) a proposed qualitative/quantitative research design to be used in Phase I of the PRECEDE-PROCEED framework involving small focus groups of African American cancer patients and utilizing a short, semi-structured, open-ended interview tool to determine (1) their knowledge and understanding of clinical trials, (2) their attitudes toward clinical trials, (3) the factors influencing their decisions to refuse participation in cancer clinical trials, or to participate in and remain in cancer clinical trials, and (4) their feelings and perceptions about participation in cancer clinical trials.

The PRECEDE-PROCEED framework is a comprehensive methodology useful in planning, designing, implementing, and evaluating research targeting recruitment and accrual of African American cancer patients in cancer clinical trials. Its multi-factorial analysis facilitates reduction of cancer disparity at the individual and community level.

### 3970

**IMPROVING THE RATES OF CERVICAL CANCER SCREENING AMONG THE HISPANIC POPULATION IN HUNTERDON COUNTY THROUGH A COMMUNITY EDUCATION PARTNERSHIP.** Mary Vecchio, RN, MSN, APN-C, OCN®, Hunterdon Regional Cancer Center, Flemington, NJ; Maria Montano, RN, Hunterdon Regional Cancer Center, Flemington, NJ; Elizabeth Koorie, MD, Phillips-Barber Family Health Center, Lambertville, NJ; Gina Davio, Fisherman's Mark, Lambertville, NJ; Marc Katz, Hunterdon County Cancer Coalition, Flemington, NJ; Jacqueline Allen, RN, MSN, APN-C, AOCN®, Hunterdon Regional Cancer Center, Flemington, NJ

Cervical cancer is highly preventable and curable, especially when detected at an early stage. The incidence of cervical cancer for Hispanics in the United States is highest among all racial and ethnic groups. Hispanics experience a higher mortality due to low rates of screening and barriers that may limit access to care. The 2006 American Community Survey by the U.S. Census Bureau reported that 5,563 Hispanics live in Hunterdon County and local data indicates Lambertville is a growing area for the Hispanic population. Recommendations from the New Jersey Comprehensive Cancer Control Plan (2008-2012) include "educate the public about cervical cancer by using culturally sensitive educational materials and programs to reach all women, especially those at increased risk." Oncology nurses serve as a valuable resource to provide education to this targeted population.

The purpose of this program is to educate the Hispanic women of Hunterdon County on cervical cancer and to increase the enrollment for cervical cancer screening through the New Jersey Cancer Education and Early Detection Program (NJCEED). The program was developed using the framework described in the Health Belief Model.

A Community Education Partnership was formed between Hunterdon Regional Cancer Center, the Hunterdon County Cancer Coalition, and Fisherman's Mark. Fisherman's Mark is a non-profit social service organization for low income individuals. A literacy-level appropriate, Spanish language Power Point presentation was developed for this outreach initiative. Attendees receive translated written materials, contact information for the bilingual coordinator of the NJCEED in Hunterdon County, and are allowed to ask questions to the Oncology nurse presenter.

Data analysis is conducted by the Cancer Coalition. Follow up letters are sent to those women who are identified as being in need of a cervical cancer screening. Enrollment data is reviewed 3 months before and after the program to determine an increase.

The positive impact that the Community Education Partnership has on the healthcare of the Hispanic community may foster the development of additional programs for this targeted population. Evaluation of feedback will be used to identify local barriers that impede access to care and facilitate client navigation through the healthcare system.

### 3971

**BREAST CANCER TUMOR SITE STRATEGY TEAM ENHANCES PATIENT SERVICES AND QUALITY.** Susan Yackzan, RN, MSN, AOCN®, Central Baptist Hospital, Lexington, KY; Kay Ross, RN, MSN, AOCN®, Central Baptist Hospital, Lexington, KY; Judith Hatch, RN, OCN®, Central Baptist Hospital, Lexington, KY; Freida Herald, CTR, RT(R), Central Baptist Hospital, Lexington, KY; Barbara Zangari, RN, MSN, Central Baptist Hospital, Lexington, KY; Charles Colvin, MA, MS, Central Baptist Hospital, Lexington, KY

Planning for expansion in breast screening and cancer services necessitated a comprehensive evaluation of services available to patients. A multidisciplinary Breast Tumor Site Strategy Team (BTSST) was established to coordinate efforts including review of breast cancer quality measures. The BTSST was facilitated by an Oncology CNS and Breast Surgeon. Oncology nurse members of

the team included the VP of Oncology Services as well as cancer center, radiation oncology and inpatient oncology nurses.

The purpose of this multidisciplinary team was to:

- assess and respond to trends in breast cancer care
- anticipate, propose and enact service changes
- review & improve breast cancer quality

The BTSST included multidisciplinary and physician representatives from all breast cancer subspecialties as well as pathology and radiology. In addition, a quality subcommittee was developed including members from administration, oncology nursing, cancer registry, quality and decision support. Internal patient encounter data and the current care delivery system were reviewed. Options for improvements were discussed and accepted improvements were initiated. Breast cancer cases from the Cancer Registry formed the basis of quality measure review and methods to increase data capture from outpatient breast cancer services were employed.

Outcomes of the BTSST on patient care services include:

- Increased communication between disciplines & services involved in breast cancer care
- Improvements in patient referral process between subspecialty physicians
- Improved OR scheduling for immediate reconstruction procedures
- Establishment of Breast Nurse Navigator role
- Development of comprehensive Patient Education Case
- Development of Breast Cancer Flowsheet
- Increased referrals to Genetic Counseling
- Development of Younger Women's Support Group & Survivorship Program

Improvements in quality measures were also seen as a result of the BTSST. Increased data capture evidenced concordance with national quality indicators and is now tracked and reported quarterly.

The BTSST established improvements in communication, planning, provision of services and internal systems. Oncology nurses were BTSST leaders and advocates for quality patient care. The BTSST model can be used by other oncology nurses involved in cancer quality initiatives.

### 3972

#### NURSING SPECIALIZATION IN RADIATION ONCOLOGY.

Jeanne Sixta, RN, BSN, OCN®, Northern Illinois Institute for Neutron Therapy at Fermilab, Batavia, IL; Marilyn Haas, PhD, ANP, Mountain Radiation Oncology, Ashville, NC

The field of radiation oncology (RO) is changing rapidly because of advancing technology in computer software and equipment. While the underlying principles of radiobiology have not changed, different RO modalities are giving patients different treatment options. RO nurses are finding themselves subspecializing in RO modalities. RO nursing roles are developing in areas such as proton beam clinics and stereotactic radiosurgery departments.

The purpose of this poster is to explore the emerging RO nursing roles and responsibilities within these specialized areas. RO nurses have significant freedom in determining priorities and work methods. Besides providing direct patient care, these nurses interface with managed care and other insurance companies, subspecialty offices (pulmonologists, thoracic surgeons, neurosurgeons, general surgeons), operating personnel and other members of the healthcare team. Most importantly, nurses in specialized areas need to be able to educate inquiring oncology patients and their families on the purpose and processes of these various treatment options.

At present, there is no practical method of identifying RO nurses roles in these specialty areas except by networking. From those who could be identified, RO nursing job descriptions were collected and reviewed.

Essential job functions are similar to other RO nurses who participate in external beam irradiation: assesses, evaluates, and

intervenes in care of patients in treatment or follow-up. Additional responsibilities were in quality control, pre-certifications, telephone follow-up for symptom management, and surgical techniques. RO nurses also play an important role in research as the new technologies and the existing technologies need to be compared to determine the best nursing and medical clinical outcomes.

While certifications are not available for RO nurses in these subspecialties, it is important to begin sharing roles, responsibilities, and evidentially standards for these areas.

### 3976

#### NURSING MANAGEMENT IN THE TWENTY-FIRST CENTURY: HOW AN INPATIENT ONCOLOGY UNIT IMPROVED THE FLOW OF COMMUNICATION.

Jaine Jewell, RN, OCN®, M. D. Anderson Cancer Center, Houston, TX; Patricia A. Johnston, RN, MHA, OCN®, M. D. Anderson Cancer Center, Houston, TX

With over 150 nurses, the Leadership Team on this 52-bed Stem Cell Transplant (SCT) unit has struggled to establish an environment where each nurse is eager to participate in unit activities and keep up to date. Looking around us we see them using personal digital assistants (PDA's) to look up new drugs and calculate their Intakes and Outputs, yet we have difficulty getting them to read their practice updates, participate in new initiatives and keep up with institutional news.

Feedback from nursing staff revealed a general perception of inundation with e-mails and requests, many of which were not relevant to our unit or to them personally, and many of which were formatted in a manner that was long-winded and/or confusing. The purpose of this poster is to show how effective the use of an electronic newsletter, web-based scheduling and a unit-specific web-site can be on the flow of communication on a nursing unit.

The first step was the creation of a monthly electronic newsletter. This contained a summary of practice changes and initiatives which were directly applicable to the unit, reminders of deadlines, and acknowledgements of unit staff accomplishments. The subsequent implementation of web-based self scheduling on this unit was a major staff satisfier. Coincidentally, the scheduling site was initially only accessible through the newly created unit web-site; this drove traffic to the web-site and encouraged navigation. The unit-based web-site includes pages specific to each staffing group and unit-based committee, as well as an abundance of resource material. The web-site also includes photo collections of unit events, summaries of collected data, and has links to other useful institutional and outside web-sites.

Although difficult to quantify, the resulting response to requests for assistance, volunteers for project work, and the general improvement in the flow of information have led the Leadership Team to determine these initiatives a success. The next focus will be to implement file sharing software to the web-site.

Nursing practice in today's world embraces ever changing technology. Nursing Leadership teams must look to creative uses of new technology to meet their goals and remain competitive.

### 3977

#### REDUCING THE RISK OF HEPARIN-INDUCED THROMBOCYTOPENIA: ONCOLOGY NURSES CATALYSTS FOR CHANGE AT THE BEDSIDE.

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Peripheral and central venous catheter lines are frequently used to infuse a variety of solutions, and withdraw blood samples for the oncology patient. Maintenance of the intravenous catheter is



important to deliver safe effect treatment and therapy as well as maintain comfort for the patient. A heparin "lock" has been used to preserve the patency of many of the intravenous catheter lines. One of the risks of using heparin is Heparin Induced Thrombocytopenia (HIT). Reducing the risk of HIT by minimizing or eliminating the use of heparin in oncology settings whenever possible is an option that still needs further exploration. Oncology nurses at the bedside are instrumental in evaluating current practice and procedures that impact patient outcomes.

The plan is to evaluate the use of saline flushes in combination with neutral pressure intravenous connectors on peripheral lines, and central venous lines with the exception of mediports. Transforming care at the bedside occurs by empowering nursing staff to participate in the development, implementation and evaluation of products and procedures.

Nurse leaders, nursing staff, and multidisciplinary team member strategies were: 1) review the literature regarding heparin flush versus saline flush; 2) review the literature on positive, negative, and neutral pressure intravenous catheter connectors; 3) develop an evaluation sheet to assess: catheter patency, catheter occlusions, blood clot dissolving agents, use of neutral intravenous line connectors, nurse and patient satisfaction; 4) education sessions implementation regarding literature review, neutral intravenous line connector, product and practice evaluations; and 5) dissemination of results of evaluation to nursing staff.

This is an ongoing evaluation process beginning in June 2008. Unit surveys have been collected at various time points. Based on data collected, there are future plans to investigate outcomes through a research study.

Nurses are essential for assessing the needs of the patient, and have a vital role in implementing changes that impact patient safety. Oncology nurses work in a specialty where change occurs regularly as we consider the dynamics of cancer care. The HIT project illustrates the importance of the bedside nurse together with the collaboration of a multi-disciplinary team approach to improve patient care.

### 3978

#### OBTAINING ACCURATE BLOOD SAMPLING FROM A CENTRAL LINE DURING TOTAL PARENTERAL NUTRITION ADMINISTRATION: MULTIDISCIPLINARY TEAM APPROACH.

Kristie Howlett, RN, MS, CNS, OCN®, Sutter Roseville Medical Center, Roseville, CA; Joshua Ford, RN, Sutter Roseville Medical Center, Roseville, CA

Central Vascular Access Devices (VAD), placed to provide reliable access for administration of chemotherapy, transfusions, and numerous blood samplings, are common in the oncology patient. Our oncology nurses and the Peripherally Inserted Central Catheter (PICC) team, proactively identify the appropriate VAD to support ordered therapy, promote optimal outcomes, reduce length of stay, and reduce cost. In 2008 our laboratory reported an increase in the number of Central Line Nurse Collected Blood Specimens (CLNCBS) contaminated with Total Parenteral Nutrition (TPN). In the first 4 months of 2008, contaminated blood specimens from the oncology unit ranged from 14-22/month. Inaccurate/false results placed the patient at risk for potential misdiagnosis, altered therapies, potential medication errors, inappropriate electrolyte management and increased cost. We could find no literature to support a technique that would eliminate CLNCBS contamination.

The purpose was to develop an accurate and consistent blood sampling process to eliminate CLNCBS contamination.

The collaboration between the Oncology RNs, PICC team and Laboratory resulted in development of a clinical practice standard (CPS) addressing CLNCBS. The development of the new CPS included a review of policy and procedure, products, revision of Central line flushing protocol, flushing technique and identifying one lumen as the designated blood sampling lumen. Once a new practice was defined, a pilot project was implemented on the in-patient oncology unit. The PICC team trained super-users,

who then provided one on one nurse training to all Oncology RN staff. The competency was developed in May and implemented in June, 2008.

Prior to June 2008, the oncology unit was experiencing 14-22 contaminated NCBS from central lines monthly. Since the implementation of the pilot, there have been zero contaminated CLNCBS on the oncology unit. Based on the pilot unit findings, this new process has been implemented hospital wide. The collaborative relationship with the PICC team and the laboratory resulted in improved collegiality among professional staff and increased communication through these relationships.

This pilot project has resulted in increased staff, patient, and physician satisfaction by decreasing repeat laboratory collection and increasing accuracy. This multidisciplinary approach and collaboration between departments has strengthened our team approach to patient care.

### 3979

#### IMPROVING AND STANDARDIZING NURSING ORIENTATION EXPERIENCES BY DEVELOPMENT OF INTEGRATED CLINICAL COACH AND NURSING ORIENTATION MANUALS FOR AN INPATIENT STEM CELL TRANSPLANT UNIT.

Jaine Jewell, RN, OCN®, M.D. Anderson Cancer Center, Houston, TX; Patricia A. Johnston, RN, MHA, OCN®, M.D. Anderson Cancer Center, Houston, TX

Orientation for nurses in this comprehensive cancer center is a combination of didactic and clinical components. The didactic needs, such as chemotherapy administration, are developed by the Nursing Education Department, with patient population specific information being provided by the unit-based Clinical Coach (CC). Factors such as the length of time since the CC herself had undergone orientation, out of date educational materials, and ever-changing technology made it increasingly difficult to create a comprehensive, up-to-date orientation experience that was consistent for all new nurses on the Stem Cell Transplant (SCT) unit.

The new SCT nurse requires in-depth information on all aspects of caring for the SCT patient, from the pre-transplant work-up, to post-transplant care, including medications, patient teaching, and resource information. She also needs tools to track her learning needs and progress, and problem-solving algorithms. The CC needed the same items, in a format that could easily be updated, plus additional information on teaching/learning, along with a solid timed teaching plan to measure progress. This poster describes the integrated orientation manuals designed to meet the needs of the new nurse and CC on a 52-bed inpatient SCT unit.

Each manual begins with clearly defined institutional and unit expectations of orientation. Sections were combined in logical sequence to promote ease of location and ease of replacement when the section was updated. For example, all items related to daily care are together, such as a copy of the shift-change format, suggestions for organizing the day, how to perform an in-depth physical assessment of a SCT patient, routine daily care and patient teaching, as well as copies of forms and tools in frequent use.

Following along with the sections of the manual has led to a more standardized orientation experience for new nurses on the unit, and increasing confidence in teaching ability for the CC. The tracking tools have led to more easily identified learning needs, rapidly identified potential problem areas, and more consistency in what is being taught.

Providing a solid, comprehensive orientation experience can assist in retaining nursing staff by promoting confidence and a sense of accomplishment.

### 3980

#### TRANSFORMATIONAL LEADERSHIP: SUCCESSFUL MERGING OF A HEMATOLOGY/ONCOLOGY UNIT WITH A PALLIATIVE CARE/ONCOLOGY UNIT.

Mary Mielnicki, RN, MSN, Northwestern Memorial Hospital, Chicago, IL; Patricia

Murphy, RN, MSN, MBA, Northwestern Memorial Hospital, Chicago, IL; Barbara Holmes Gobel, RN, MS, AOCN®, Northwestern Memorial Hospital, Chicago, IL

The four factors of Transformational Leadership Principles: idealized influence, inspirational motivation, individualized consideration and intellectual stimulation guided the successful merger of two medical oncology units at Northwestern Memorial Hospital (NMH). At NMH, the Hematology/Oncology and Palliative Care/Oncology units were geographically located next to each other sharing a Unit Secretary. Each unit had a separate leadership team that consisted of Clinical Coordinators, a Staff Educator and a Clinical Nurse Manager (CNM). Both units were proficient in chemotherapy, symptom management and care of the medical oncology patient. In addition, the Hematology/Oncology staff maintained a telemetry competency and the Palliative/Oncology staff maintained a palliative care competency. Each unit had individual staffing guidelines regarding holidays, rotation and seniority as well as unique unit cultures.

These two units were slated to merge into one staff with dual competencies and one leadership team to care for the combined patient population. The Hematology/Oncology CNM was designated to lead the new unit.

The leadership from both units attended a four hour retreat. Issues identified related to the merge were categorized into four working groups: staff scheduling, education, workflow, and team building. Each group was co-led by leaders from each unit. All unit staff were kept involved in the process through weekly communication meetings, questionnaires, team building activities and emails.

In less than 3 months, a new unit scheduling procedure was created, palliative care & telemetry education were completed, team-building activities were accomplished, & a new workflow was rolled out to staff. The turnover rate has been 3% since this change, well below the hospital and national averages.

Transformation Leadership can facilitate change. By using the principles of transformational leadership, that encourage innovation and creativity, a successful, cohesive, and stronger oncology unit was realized.

### 3981

**EMPOWERING NURSING PRACTICE THROUGH CLINICAL PRACTICE GUIDELINES.** Melissa Kratz, RN, MSN, AOCN®, Lehigh Valley Hospital, Allentown, PA; Patricia Shearburn, RN, MSN, AOCN®, Lehigh Valley Hospital, Allentown, PA

In 2004 we identified 600 nurse to physician calls for patient symptom management. In all cases the nurses requested specific orders. This led to the implementation of nurse managed clinical practice guidelines (CPG) on our inpatient oncology units. The specific guidelines included: nausea/vomiting, constipation, diarrhea, and blood transfusion. The guidelines included specific assessments to be done with algorithms guiding the management of symptoms. The nurses were empowered to implement the CPG's without prior call to physician therefore expediting care and relief of symptoms. Based on increased physician and nurse satisfaction the decision was made to develop and implement CPG's in our outpatient infusion units.

The goal was to replicate the success of the CPG's in the outpatient arena leading to more efficient patient care as well as increased nurse and physician satisfaction.

A Quality Circle committee was formed and includes staff RN's from infusion, radiation oncology and physician offices as well as pharmacists and CNS's. The committee identified potential evidenced based CPG's that would decrease time on the phone waiting for physician orders. ONS PEP cards were utilized to develop the CPG's. The following CPG's have been developed and implemented in the outpatient arena: Nausea/vomiting, constipation, diarrhea, dehydration/hypovolemia, Electrolyte Imbalance, and Management of CVC's without blood return. In addition several medication specific guidelines have been developed. A

standardized approval process is in place to assure all CPG's are approved by physicians, nurses and pharmacists prior to use in patient care. The CNS's were responsible to educate the nurses and provide clinical support for the implementation of CPG's.

Initially the nursing staff was uncomfortable with the idea of CPG's, however encouraging them to be part of the development and approval process proved to ease the transition. In addition, extensive education and support by the CNS's in the clinical environment helped to minimize the anxiety. We are currently evaluating nursing and physician satisfaction.

Insight gleaned from the staff is invaluable in the development of CPG's. CPG's have increased the quality and efficiency of care in our infusion centers by assuring our care is evidenced based and minimizing wait time for the patient.

### 3982

**PERIPHERAL NEUROPATHY IN COLON CANCER PATIENTS RECEIVING OXALIPLATIN.** Cindy Tofthagen, PhD, ARNP, AOCNP®, University of South Florida, Tampa, FL; Susan McMillan, PhD, ARNP, FAAN, University of South Florida, Tampa, FL

Colon cancer is the third most common cancer in the United States. Colon cancer related deaths have steadily decreased over the last twenty years largely because of early detection but also because of the development of new treatment options like oxaliplatin. Unfortunately, neuropathic side effects are commonly reported in patients receiving oxaliplatin. The incidence of paresthesias as a result of exposure to cold temperatures has been well documented. Data on the occurrence of other neuropathic symptoms, symptom severity, symptom distress, or interference with usual activities are not available.

The purpose of this descriptive study was to explore the prevalence of neuropathic symptoms in colon cancer patients receiving oxaliplatin as well as to explore symptom severity, symptom distress and neuropathic interference with usual activities among colon cancer patients receiving oxaliplatin. Peripheral neuropathy and symptom management have been identified by ONS as top research priorities for 2005-2009.

The Theory of Unpleasant Symptoms suggests that the number of symptoms a patient experiences, symptom severity and symptom distress all contribute to the patient's physical and emotional functioning.

Thirty-three outpatients receiving oxaliplatin at Moffitt Cancer Center completed the Chemotherapy Induced Peripheral Neuropathy Assessment Tool (CIPNAT), a self-report tool that evaluates neuropathic symptoms, severity, intensity, and interference with activities. Patients were included in the study if they had received at least one cycle of oxaliplatin, were between 18-90 years of age, had no history of diabetes, and spoke English. Data was analyzed using descriptive statistics.

Participants experienced an average of 4.6 neuropathic symptoms. Mean severity of symptoms was 4.8 on a scale of 0-10 and mean symptom distress was 4.0. Cold sensitivity was the most frequently reported neuropathic symptom followed by tingling hands, numb hands, tingling feet, muscle weakness, numb feet, arthralgias/myalgias, loss of balance and neuropathic pain. Patients reported that neuropathic symptoms interfered with numerous activities including sleep, work, enjoyment of life. Patients who receive oxaliplatin experience both sensory and motor neuropathies that are moderately severe and distressing and interfere with physical and emotional well-being. Oncology nurses can use this information to help educate patients about potential side effects of oxaliplatin.

### 3984

**QUALITY OF LIFE IN COLORECTAL CANCER SURVIVORS AS IDENTIFIED BY GENDER-SPECIFIC FOCUS GROUPS.** Marcia Grant, RN, DNSc, FAAN, City of Hope, Duarte, CA; Mark C.

Hornbrook, PhD, Kaiser Permanente Northwest, Portland, OR; Lisa J. Herrinton, PhD, Kaiser Permanente Northern California, Oakland, CA; Carmit K. McMullen, PhD, Kaiser Permanente Northwest, Portland, OR; Andrea Altschuler, PhD, Kaiser Permanente Northern California, Oakland, CA; Robert S. Krouse, MD, Southern Arizona Veterans Affairs Health Care System, Tucson, AZ

Many of the 1.1 million persons alive in the US with a history of colorectal cancer (CRC) have received temporary or permanent ostomies. Understanding how lifelong fecal incontinence affects quality of life (QOL) can provide the basis for education and support of this population.

The purpose of this study is to understand QOL concerns of CRC survivors with ostomies as identified by gender-specific focus groups.

The four dimensions (physical, psychological, social and spiritual) QOL model from City of Hope provided the framework for the quantitative QOL questionnaire, and focus group content analysis.

This multisite, multidisciplinary mixed methods study had two phases: a mailed CR-QOL survey and focus groups to examine barriers and coping strategies of long-term CRC survivors. Respondents from two Kaiser Permanente Regions (Northern California and Northwest) were eligible if 18 years or older and diagnosed with CRC at least five years prior. The 286 respondents with ostomies were divided, based on their overall QOL score into the highest (HQOL) and lowest (LQOL) quartiles. Based on gender, quartile participants were invited to focus groups. Eight groups resulted: four HQOL groups, two for men and two for women and four LQOL groups, two for men and two for women. Content analysis of the transcripts was conducted by the research team using the COH model and HyperRESEARCH. Coding was done by the entire research team, validated by two investigators, and finalized as a group when discordant coding occurred.

Comments from HQOL groups addressed fewer codes within each of the four QOL dimensions than did the LQOL groups. Females had a greater number of comments across codes than males. Social well-being had the most comments and the spiritual well-being had the least. Dietary issues, clothing changes, sexuality, and travel issues were common across groups. Sleep issues were more commonly discussed in the female groups, and body image was only discussed in the LQOL female group. Qualitative data validated the survey. Results can be used to design the content and approach to test psychoeducational interventions for CRC patients with ostomies.

### 3985

#### DEVELOPMENT, IMPLEMENTATION, AND EVALUATION OF A STATEWIDE OVARIAN CANCER EDUCATION PROGRAM.

Joni Watson, MSN, MBA, RN, OCN®, Texas Nurses Association/Foundation, Austin, TX; Gina Kuenstler, BSN, RN, OCN®, Texas Nurses Association/Foundation, Austin, TX

According to the American Cancer Society, ovarian cancer is the eighth most common cancer among women, accounting for about 3% of all female cancers. It has a 45% five-year survival rate, and ranks fifth in cancer deaths among women, accounting for more deaths than any other cancer of the female reproductive system. Only 19% of all ovarian cancers are found in the earliest curable stages, but it can be caught earlier if nurses in all fields of practice are educated and aware of the whispering symptoms. A preliminary study of 85 Texas nurses' ovarian cancer knowledge and available ovarian cancer continuing nursing education (CNE) revealed deficiencies.

This presentation describes efforts to increase Texas nurses' knowledge of ovarian cancer incidence and prevalence, risk factors, prevention, clinical features, screening, referral to the appropriate healthcare provider for treatment, and survivorship issues.

A multidisciplinary Ovarian Cancer Advisory Panel was established to develop an evidence-based ovarian cancer education

plan using a systems approach. As part of this panel and supported by the Cancer Prevention and Research Institute of Texas, Texas Nurses Foundation and Texas Department of State Health Services via the Centers for Disease Control and Prevention, the Nurse Oncology Education Program provided ovarian cancer CNE for nurses in all fields of practice through conferences and an independent study available in print and online.

After the education sessions, a convenience sample of 186 nurses completed a retrospective post-test evaluation. Nurses' ovarian cancer knowledge was increased in all seven areas by more than 50%, with the greatest increases of knowledge achieved for ovarian cancer incidence and prevalence (67.7%), symptoms (66.7%), survivorship issues (62.9%), and risk factors (62.8%). Focus group findings supported the value of the presentation to nurses and suggested areas for refinement.

After just six months, 855 Texas nurses were impacted and actively involved in ovarian cancer education. Developing various formats of CNE on a single topic such as ovarian cancer can provide flexible access, match styles of learning and impact nursing knowledge statewide. Other organizations may use similar approaches to increase cancer knowledge to targeted populations.

### 3986

#### EDUCATIONAL ONCOLOGY PROGRAM FOR ADVANCED PRACTICE NURSES IN RURAL AND/OR MEDICALLY UNDERSERVED AREAS IN TEXAS.

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APNs in rural and/or underserved areas experience several isolating factors including long distances from educational institutions and metropolitan areas; extra time and money spent in order to obtain continuing education; and difficulty with limited staff in underserved areas. These barriers to participation in continuing education help produce a sense of disconnectedness which is often cited by nurses as the primary reason to leave rural nursing. Among the caseloads of these rural APNs are patients at high risk for cancer – including undiagnosed cancers and long-term cancer survivors.

Supported by a grant from Cancer Prevention and Research Institute of Texas (CPRIT), Professional Education for Prevention and Early Detection (PEPED) at M. D. Anderson Cancer Center developed a one-day program for Advanced Practice Nurses (APN) to be delivered locally in rural and/or medically underserved areas in Texas. This program was developed using the Model for Continuing Education (CE) for Nurse Practitioners developed by Green, Gorzka & Kodish. Through extensive research, this model was developed to plan and deliver CE education programs based on the CE needs of Nurse Practitioners related to general issues of practice and specialty practice area needs.

Two workshop sites will be selected and a partner at each site will serve as a local coordinator. Two Advanced Practice Nurses from M. D. Anderson Cancer Center will travel to the sites and present 1/2 day of advanced practice content consisting of current information about guidelines for screening and early detection, followed by a 1/2 day program of case studies with application of specific practice guidelines from M. D. Anderson. Access to on-line information and guidelines will be emphasized. Several sites have already expressed interest.

1. 25 APN's trained.
2. Improved APN cancer screening management as measured by participant report, through acquired ability to independently access and apply cancer screening management guidelines.
3. Reduced feelings of "disconnectedness."

There is disproportionate cancer incidence, morbidity and mortality in minority and medically underserved populations in the United States. Improvement in APN patient management in Rural Texas will lay a foundation for improved cancer outcomes.



**BEGIN WITHIN: SUCCESSFUL STRATEGIES FOR EDUCATING ONCOLOGY NURSES IN END-OF-LIFE CARE.** Sheila Ferrall, RN, MS, AOCN®, Moffitt Cancer Center, Tampa, FL; Vicki Marsee, RN, MBA, NEA-BC, Moffitt Cancer Center, Tampa, FL

Despite strides that have been made in cancer treatment, during 2008 more than 500,000 Americans succumbed to their disease. While studies indicate most patients would prefer to die at home, the majority die in health care institutions. Oncology nurses are positioned to profoundly impact the quality of care provided to dying patients and their families, however, education in this arena is lacking. With cost-containment a focus in many healthcare settings, implementation of a wide-spread continuing education program for nurses can be challenging.

The purpose of this project is to describe a comprehensive program utilizing existing resources; implemented to educate oncology nurses about caring for patients at the end-of-life.

Several nurses at our institution attended an End-of-Life Nursing Education Consortium (ELNEC) Train-the-Trainer Program or other ELNEC seminar. Equipped with strategies to educate about end-of-life care, the group planned a program to meet the specific needs of our oncology nurses. Content was initially provided in 8 modules during a full-day program. Experienced nurses or those who attended an ELNEC course presented each module. A clinical nurse specialist served as course coordinator. Each speaker assumed responsibility for the seamless transition from one presenter to the next allowing us to forgo the expense of a proctor. To facilitate discussion and sharing experiences, class size was limited to 16 participants. Participants evaluated the program and modifications were made based upon their input.

During the two years the program has been offered, 205 nurses have participated. Additionally, 16 experts have rotated to present content. Response has been overwhelmingly positive, with attendees rating the program 4.5 overall on a 5 point Likert scale. Each month participants commented on their appreciation of the interactive exchange format and emphasized the importance of dialogue with their peers. Programs are scheduled throughout 2009 with an assessment for the need of an advanced topics program planned.

Through utilization of existing resources (sharing teaching responsibilities) and a commitment to improve care for patients at the end-of-life, we have been able to implement a program that our nurses value and appreciate. Others may use this divide-and-conquer approach to implement similar initiatives at their institutions.

### 3990

**MEDICATION REVIEW AND HOURLY NURSING ROUNDS: AN EVIDENCE-BASED APPROACH REDUCES FALLS ON ONCOLOGY INPATIENT UNITS.** Lana Callahan, RN, OCN®, Brigham and Women's Hospital, Boston, MA; Susan McDonald, RN, BSN, OCN®, Brigham and Womens Hospital, Boston, MA; Daniel Voit, PharmD, Brigham and Womens Hospital, Boston, MA; Anne McDonnell, PharmD, Brigham and Womens Hospital, Boston, MA; Jorge Delgado-Flores, PharmD, Brigham and Womens Hospital, Boston, MA; Escel Stanghellini, RN, MSN, Brigham and Womens Hospital, Boston, MA

The Joint Commission National Patient Safety Goal states that hospitals must reduce the risk of patient harm resulting from falls and recommends a fall reduction program including evaluation of its effectiveness. There is evidence that hourly nursing rounds and prospective review of medications are associated with reduction in falls.

The purpose of this project was to evaluate the impact of hourly nursing rounds and prospective review of high risk medications on reduced falls and injury rates and increased patient and staff satisfaction.

Within the Hematology-Oncology/Bone Marrow Transplant (HOB) service, the unit with the highest injury rate was selected to implement rounds for 3 months. All patients were assessed daily for fall risk using the Morse Fall Scale. Rounds involved checking pain, positioning/comfort, toileting, personal needs, and safety checks. Pharmacists completed a medication review for patients at high risk for falls and injuries. Daily weekday huddles with the team occurred on the unit to evaluate the process and address barriers in real time.

There were 3 falls with injury during the 3 months prior to the PCR and there were no falls recorded during the study period. This reflects a 100% reduction in the fall with injury rate achieved during the study period and contributed to a reduction of 67.8% by the end of fiscal year 2008. Press Ganey scores reflected increased patient satisfaction during this quarter (as compared to the previous quarter) in teamwork=3.7%; attention to special/personal needs=2.1%; overall nursing care=1.9%; and pain control=1.2%. These results were mirrored by overwhelming positive feedback from patients. Staff also reported increased satisfaction related to teamwork and relationship.

Registered nurses and pharmacists can use this process to implement hourly rounds and medication reviews in their units to improve patient safety. In addition, program managers can incorporate this quality improvement project into their falls prevention program. Rounds are now fully implemented throughout the HOB service. The next step is to implement a monitoring system to ensure compliance with key rounding elements.

### 3991

**PUTTING THE "P" IN PALLIATIVE: A PRIMER FOR PERFECTING PERSONNEL PERFORMANCE.** Cynthia Idell, RN, BA, MSN, AOCN®, City of Hope, Duarte, CA; Kate Kravits, RN, MA, LPC, ATR, City of Hope, Duarte, CA; Jill McCormick, RN, MSN, OCN®, City of Hope, Duarte, CA

According to Gelfman, Meier and Morrison, palliative care is the interdisciplinary specialty that aims to relieve suffering and to improve quality of care for patients with serious illness. Palliative care programs are common in hospitals as patients and families desire relief from physical distress, control over health decisions, and prevention of death-prolonging procedures. Despite the presence of renowned palliative care experts at a west coast comprehensive cancer center, patient satisfaction surveys and staff needs assessment indicate care gaps remain in best palliative care practice.

The purpose of this project was to analyze palliative care gaps within the institution and to pilot potential strategies designed to enhance staff palliative care knowledge while improving staff satisfaction, earlier hospice referrals, and decreasing re-admissions.

An interdisciplinary team was established including physicians, social workers, psychologists, advanced practice nurses, researchers and staff nurses. The approach selected for the intervention utilized case studies and practical tools for staff. The Evidence-Based Nurse series set a precedent for this approach. An oncology inpatient setting was chosen as a pilot as a result of staff interest and due to the complex palliative care needs of advanced metastatic patients. Expert speakers presented topics identified by staff with nurse-sensitive outcomes, including: managing difficult patients; cognitive changes/delirium; self-care; sadness versus depression; intractable pain management; ethics of palliative care; and care for dying patients. Presented twice monthly, each session was a 20 minute presentation, 15 minute case study, and time to apply pearls to practice.

Average series attendance was 25 from all disciplines. Post-evaluations tracked short-term outcomes. Long-term outcomes included: time to hospice referral, tracking re-admissions for palliative care symptom management and Press-Ganey satisfaction scores. Palliative care education requests are below baseline year. Pending positive pilot outcomes, the palliative care series will be disseminated to other clinical areas.

Devising an infrastructure to institutionalize best practice for palliative care remains an on-going challenge. A long-range, case-based educational series may not only satisfy professional knowledge but also serve to enhance patient satisfaction and reduce re-admissions.

### 3993

**PARTYING FOR RETENTION AND TEAMWORK!** Mina Ford, MSN, RN, OCN®, Martha Jefferson Hospital, Charlottesville, VA; Teresa Maddox, RN, OCN®, Martha Jefferson Hospital, Charlottesville, VA; Angela Craig, RN, OCN®, Martha Jefferson Hospital, Charlottesville, VA

The Nursing Shortage has been a major concern for healthcare the past few years. The national average for RN vacancy is 8.1%. In 2007 at Martha Jefferson Hospital the vacancy rate was 3.7% on South 7, a medical/surgical/oncology unit. Although our vacancy rate was lower than the national average, the staff recognized that this could become an issue. Therefore the topic of staff retention was taken to the South 7 Shared Governance Council (S7SGC).

The S7SGC wanted to create a welcoming environment for all new staff to improve the retention rate and to reinforce the importance of teamwork.

The S7SGC decided to celebrate the unit's current staff. In 2007, South 7 had its first annual Fiesta. The Fiesta is a 24 hour party to celebrate new graduates and the S7 nurses who have completed their first year. The new graduates receive a "Basic" or "Advanced" survival kit full of items to help them in their orientation to the unit. The entire staff brings food, the Lounge is decorated, and everyone who comes on the unit is invited to celebrate. This allows all staff on different shifts to work together. This was such a success, the Council created quarterly 24 hour parties.

Evidence that these intentional efforts to "Celebrate" are positively impacting staff retention and can be seen in our NDNQI Nurse Satisfaction Survey results from October 2008:

- 1) 100% of S7 nurses plan to stay employed on the same unit in the upcoming year.
- 2) Job enjoyment t-scale measures were higher for S7 than the benchmark for other comparable hospitals and showed a high level of job enjoyment.
- 3) The vacancy rate for S7 was 2.2% in 2008, a decrease from 3.7% in 2007.

While S7 is not currently experiencing a high vacancy rate, we are keenly aware of the nursing shortage and retention issues. S7 did not take the NDNQI survey in 2007, so we cannot prove that the initiation of the Fiesta improved our retention rate. Many staff members did mention that these events helped improve morale.

### 3994

**MULTIDISCIPLINARY DEVELOPMENT OF A "FAST TRACK" MODULE UTILIZED DURING TRIAGE IN AN URGENT CARE SETTING.** Rose Vega, RN, Memorial Sloan Kettering Cancer Center, New York, NY; Elizabeth McNulty, RN, Memorial Sloan Kettering Cancer Center, New York, NY; Janine Kennedy, CNS, Memorial Sloan Kettering Cancer Center, New York, NY

The Urgent Care Center at a comprehensive cancer center has seen an increase in volume and acuity in our patient population. At times, patients with stable, minor medical complaints are being mixed with more complex patients, thus experiencing increased wait times and decrease patient satisfaction. With use of a Medical Board and reviewed management system that allows nurses to enter laboratory, pathology order set and then designating these patients to Fast Track allows for proper prioritization.

To address these issues, the UCC implemented a Fast Track area and guidelines. A multidisciplinary group met to delineate which patients could be seen in the fast track area and what processes should be in place to make the care delivery efficient yet comprehensive. It has also addressed concerns about capacity during peak demand.

The Multidisciplinary team consisted of UCC nurses, physicians, and case management. The group developed guidelines for the UCC triage nurse to assist him/her in streamlining patients chief complaints towards the Fast Track area. The FT area is staffed with one UCC RN and one UCC physician to care for a 3 bed area. The patients seen in this area typically are stable and have a high rate of discharge from the UCC. For example, patients who arrived with having an asymptomatic DVT found on a routine ultrasound, are brought to this area for assessment and education on the management of the DVT. With the involvement of case management, we are able to provide patients with more services at home, thus eliminating their need for admission.

The Fast Track guidelines developed were effective in reducing wait times thus increasing patient satisfaction, patient safety and increase staff satisfaction. Ongoing data collection will allow us to constantly revise and update Fast Track role and standards. Most recent implementation of case management, financial savings have been seen by decreasing length of stay and admission.

Addressing current times in reference to growing number of oncology patients and increase co-morbidity's our guidelines prove useful in creating a universal module. It ensures patient scenario is handled as a case by case, has ensured a successful program and insures optimal care with true use of a comprehensive medical team, utilizing every resource available.

### 3995

**THE ROLE OF GRANULOCYTE TRANSFUSIONS IN LIFE THREATENING INFECTIONS OF LEUKEMIA PATIENTS.** Theresa Sullivan, RN, MSN, MD Anderson Cancer Center, Houston, TX

Transfusions of donated white blood cells, or granulocytes is a viable option to treat extensive or serious infection in the setting of prolonged neutropenia in leukemia patients. As a result of prolonged myelosuppression from progressive disease or resulting from chemotherapy these patients are not expected to recover their normal blood counts in a sufficient amount of time to resolve their life threatening infection. Oftentimes the patient will die of their infection(s) before their blood counts can recover. Granulocyte transfusions can be a means to gain precious time until the patient can recover his own counts.

As a nurse working with these patients receiving granulocyte transfusions it is important to understand the granulocyte collection process, potential complications during granulocyte infusions and recognize the body's response to these infusions.

As collection techniques yield better number of granulocytes able to be infused, this may become a more common intervention. The bedside nurse is at the forefront to recognize the need, give the infusions, intervene/assess complications and evaluate response.

The objectives are to establish (1) current knowledge of granulocyte normal function and how granulocyte transfusions can supplement in the absence of normal function, (2) discussion of the apheresis cell separator machine to collect the cells, (3) discussion of nursing interventions while monitoring patient getting granulocyte transfusions and (4) discussion on how to evaluate response to granulocyte transfusions. Case studies will be presented to show before after improvement of infection status.

Assessment of knowledge will be determined by group discussion of information presented.

Patients with leukemia continue to die from serious infections in spite of aggressive antibiotics and growth factors. Granulocyte transfusions are a viable option to treat these infections and offer the patient time to recover his own counts. The oncology nurse is at the forefront of this intervention and will need to understand all its implications.

### 3997

**CHEMOTHERAPY DESENSITIZATION IN THE OUTPATIENT SETTING.** Dorothy Tully, RN, BSN, Dana Farber Cancer Institute, Boston, MA; Margaret Blackmon, RN, Dana Farber Cancer Institute, Boston, MA; Joelle Chateauf, RN, BSN, Dana

Farber Cancer Institute, Boston, MA; Sharon Kirkwood-Miller, RN, Dana Farber Cancer Institute, Boston, MA; Michelle Mullin, RN, BSN, Dana Farber Cancer Institute, Boston, MA

A significant number of individuals with cancer are unable to obtain first line chemotherapy due to hypersensitivity reactions (HR) that are unmanageable with standard pre medications. Consequences are often that patients are unable to receive a potentially life-saving therapeutic regimen. Rapid desensitization (RD), in the form of a 12-step protocol, creates a temporary toleration of the chemotherapy drug, allowing patients to receive the full chemotherapy regimen, often increasing life expectancy and quality of life.

The purpose of this presentation is to educate oncology nurses about the outpatient desensitization process and the associated risks and benefits.

The rapid desensitization protocol was developed by Dr. Marina Castells, an allergist at Brigham and Women's Hospital. To safely administer the protocol in the outpatient setting a nursing policy was developed. The protocol and premedications are individualized and based on the patients previous history of reactions. Premedications may be a combination of antihistamines, H2 inhibitors, steroids, aspirin and or Montelukast Sodium. The 12 step desensitization protocol consists of the increasing titration of 3 different concentrations of drug over approximately 6 hours. Continuous observation and patient assessment allow for early identification and intervention to reactions. The first step in the management of a reaction is to stop the drug and administer appropriate medication, per desensitization protocol. Intervention is based upon the type of reaction, described as mild or severe. The infusion is resumed once the reaction has resolved or subsided.

Throughout 413 desensitizations performed, 94% induced only mild or no reactions. No life-threatening HSRs or deaths occurred during the procedure, and all patients received their full target dose.

The protocol, guidelines and policy at DFCI/BWH allow the nurses to successfully and safely administer first line chemotherapy on outpatient basis. Sharing our knowledge of this process with other Oncology Nurses can be beneficial to many oncology patients who have allergies and are unable to receive first line therapy.

### 3998

**AMBULATORY CARE SKILLS LAB TO RENEW, REFRESH, AND REJUVINATE THE NURSES IN THEIR VARIOUS ROLES TO IMPROVE THE STAFF'S SATISFACTION AND JOB PERFORMANCE.** Marie Riehl, RN, OCN®, Fox Chase Cancer Center, Philadelphia, PA; Susan Anztack, RN, Fox Chase Cancer Center, Philadelphia, PA

The Ambulatory Care Department of Fox Chase Cancer Center is an outpatient treatment area that evaluates and treats adult oncology patients. Nurses in ambulatory care are unique and skillful in their areas of expertise. Patients requiring urgent care are seen primarily in our triage unit however a patient can come for a visit to their physician and need urgent attention. With the growing number of patients being seen and the stressful economic times, nurses need to be flexible and skilled to utilize their expertise in all settings. Staff was struggling with their skills and comfort moving into unfamiliar work settings.

The Practice Council in ambulatory care recognized the need to improve staff's comfort level and refresh the skills the staff had identified. The purpose of the skills lab was to provide time for staff to go through eight skill stations, ask questions, and demonstrate technique and review policies and procedures.

A survey was sent to the staff asking for topics for review as well as policies and procedures that the staff wanted to review. From the information obtained from the surveys, a skills lab was developed covering intravenous insertion, accessing ports, blood draws, roles in medical and surgical clinics as well as other skills. This was customized to the staff's needs and desires.

Surveys were sent to all the nursing staff in ambulatory care to assess the satisfaction and personal goals identified. 100% of

the staff reported overall satisfaction of the skills lab and 73% identified the need to repeat the session in the future. Staff nurses reported enjoyment in interacting with peers and increased their comfort level to cross over into areas of practice that they do not regularly practice. Data collection continues for the development of future skill sessions.

Care of oncology patients in an outpatient setting can be complex and challenging. As nurses we find our comfort zone and excel. Often a need arises to challenge ourselves and cross into a new area of practice such as a triage nurse or running a clinic where the disease focus is unfamiliar. Skills labs are a safe environment where nurses of all levels can ask questions, demonstrate technique and share information. The goal is to improve patient care, improve patient safety and ultimately improve personal satisfaction.

### 3999

**THE INTEGRAL ROLE OF NURSES IN MONITORING AND MANAGING GLYCEMIC STATUS IN PATIENTS WITH CANCER.** Marilyn Hammer, PhD, DC, RN, University of Washington School of Nursing, Seattle, WA; Donna Berry, PhD, RN, AOCN®, FAAN, Dana-Farber Cancer Institute, Boston, MA

Patients with cancer have compromised immune function due to the malignancies themselves and the treatments used to combat the cancer. Compromised immune function can lead to infections, related complications, and death. Compounding immune dysfunction is unstable glycemic levels. This is particularly important as 7% of the US adult population currently has Type 2 diabetes – a number that is continuously growing.

In all patient settings, nurses are the primary assessors of patient status. Nurses can implement protocols for enhanced and more efficient methods of patient care. Additionally, nurses can evaluate the many factors that contribute to abnormal blood glucose levels and are exemplar in patient education.

The goal was to describe nurses' roles in implementing protocols and monitoring, managing, and educating patients for improving glycemic control, thus leading to better outcomes for patients with cancer.

Interventions for better glycemic control are just emerging. More frequent monitoring and management to maintain glycemic levels within tighter parameters, while avoiding fluctuations, are paramount. Monitoring of the many contributors to glycemic abnormalities (nutrition, mobility, stress, and infections) is an essential key to blood glucose control. In addition to enhanced protocols for blood glucose monitoring and pharmacological therapies, meticulous care to prevent or reduce infections, preventing long periods of immobility, and implementing various methods for stress management are integral components to blood glucose management and, by association, enhancement of immune function.

As new protocols are emerging for blood glucose monitoring and management, nurses will continue to be at the forefront of the process. Evaluation of the many factors that contribute to abnormal glycemic levels and enhanced patient education are essential.

Patients with cancer face enumerable challenges. The malignancies themselves coupled with treatments compromise immune function, thus leading to infection susceptibility and related complications, including death. An additional contributor to immune dysfunction is abnormal glycemic levels. Protocols for enhanced monitoring and management of glycemic levels, including patient education, are paramount for improving outcomes including increasing survival. Nurses are an essential part of this process. Future studies will evaluate nurses' roles as part of this protocol.

### 4002

**REINFORCING THE VALUE OF ONCOLOGY CARE.** Denice Gibson, RN, MSN, AOCNS®, BGSMD, Phoenix, AZ; Selma Kendrick, RN, MS, OCN®, BGSMD, Phoenix, AZ

Recruitment and staff retention have become even more challenging in areas such as oncology. The oncology practice requires



individuals with addition skills to manage high levels of stress, diverse family dynamics, acute patient care needs, death and dying and end of life care. Benefits of this dedicated, challenging care are reinforced through recognition celebrations of the aggregates journey and staffs commitment.

We have implemented and maintained measures to reinforce the value of oncology care, magnet philosophy and the goal of maintaining oncology certified nurses (71%). Celebrations and moments of recognition have been implemented to honor the lives of our cancer patients, their families and our Oncology Nurses. This retention strategy reinforces hope, caregiver and staff motivation through story telling which occurs at these specific events.

We demonstrate this by bringing the community together to tell their stories and nurses and physicians together to recognize their accomplishments which inspires caregivers. Patient Community Celebration Events includes: Celebration of Life for our BMT patients (2009 12th Anniversary) Celebration of Heroic Journey (2009 12th Anniversary) Monthly Tea Party and 12 ABCD Staff Retreat (15th Anniversary) 12ABCD.

The Oncology and Bone Marrow Transplant Department maintains a zero vacancy rates and a turnover rate of less than 3%. Staff retention (over 100 RNs) exceeds both institutional and national standards, fosters community relations and provides staff satisfaction. The celebrations and recognition events are looked forward to each year by staff reminding them of their commitment to the care of a complex aggregate. Our patient satisfactions scores as measured by HCAPS through NRC Piker are 68.5% for overall satisfaction and their likely to recommend is 73%.

These celebrations positively impact our caregivers and are a beacon for survivorship and heroes. The privilege to care for and the opportunity to recognize the results of the oncology practitioners are also demonstrated by an increase in participation each year, our improved patient satisfaction and employee retention.

#### 4003

##### TWO YEAR REPORT ON THE IMPACT OF A COMMUNITY-BASED EXERCISE PROGRAM FOR PERSONS WITH CANCER.

Barbara Haas, PhD, RN, University of Texas at Tyler, Tyler, TX; Gary Kimmel, MD, Cancer Foundation for Life, Tyler, TX

Substantial physical and psychological benefits of exercise for persons with cancer are well documented. However, the majority of studies have been of short duration or tightly controlled, excluding persons with less common cancers or advanced disease. In addition, reimbursement for physical rehabilitation is limited, short-term, or nonexistent, making supervised exercise inaccessible to many persons with cancer.

The purposes of this study were (1) to demonstrate the efficacy of utilizing existing health care resources to create a cost-free exercise program and (2) to determine the effects of that program on the quality of life (QOL) of persons with cancer. These purposes support 2007 ONS Research Priority 5.2, Physical Function and the need for longitudinal studies to determine efficacy over time along with the need to provide vulnerable populations access to care.

A theoretical model, generated by integrating selected concepts from Pender's Health Promotion Model and Bandura's Social Cognitive Theory, was used to guide the study.

This longitudinal, quasi-experimental study was conducted over two years. Participants were referred by their physician to participate in a cost-free, individualized program of exercise at one of twelve community centers. Participants (n=435) were primarily female, Caucasian, and included persons at all stages of different cancer diagnoses. The Medical Outcomes Survey, Short Form, version 2.0 (SF-36, v.2) was used to assess QOL. Data collection took place at baseline, every three months during year one, and every six months during year two. Data was entered into SPSS 15.0 and analyzed using one-way ANOVA.

Findings supported the positive impact of exercise on QOL as predicted by the model. Significant subscale scores of the SF-36 included: physical function (F=2.92, p < .01); role physical (F=4.54, p

< .01); vitality (F=5.08, p < .01); social function (F=4.81, p < .01); role emotional (F=2.43, p < .05); mental health (F=2.23, p < .05); and general health (F=2.11, p < .05) were sustainable over time. Scores for the bodily pain subscale was nonsignificant. This research supports the feasibility of a cost-free long-term community-based program of individualized exercise as an effective intervention to improve the QOL for persons with all types and stages of cancer.

#### 4005

##### PROCESS OF ESTABLISHING THE EVIDENCE BASE FOR DEVELOPING GUIDELINES FOR SPIRITUALITY CARE.

Hermengilde Naluyima, RN, BSN, OCN®, Gundersen Lutheran Health System, La Crosse, WI; Shannon Spies Ingersoll, CRNA, MS, Gundersen Lutheran Health System, La Crosse, WI

The importance of spiritual provision is a central component of health care, necessitating nurses to include this dimension of care. Spiritual care (SC) has been acknowledged as imperative to standardized care, however, the delivery of spiritual care and its influence on spiritual well-being (SWB) is under-documented. To develop evidence-based guidelines for providing spiritual care in a chemotherapy unit, the literature was reviewed and integrated with the patient and nurse perspectives of spiritual care delivery.

The goal was to establish an evidence base for developing a guideline for providing spiritual care on a chemotherapy unit.

A literature review was conducted to identify the influence of spiritual assessment on patients' SWB. Patients and nurses on a chemotherapy unit completed the Caring Factor Survey (CFS), and Caring Factor Survey-Provider Version (CFS-PV) to document a baseline level of patient and nurse perceptions of nurse caring. Chemotherapy nurses participated in focus groups conducted in part to identify ways to deliver spiritual care.

The literature suggests that: patients with a high level of SWB are more likely to adhere to their plan of care, demonstrate higher levels of exercise endurance, attain a higher positive attitude and are more likely to find meaning or purpose in life compared to patients with low SWB. Promotion of SWB is grounded in a nurses' personal awareness of SWB, which is critical to conducting a spiritual assessment. In turn, a spiritual assessment helps to establish an individualized approach to fostering SWB in patients. Data from the CFS and CFS-PV indicated overall high agreement that caring was provided, however, both patients and nurses rated the delivery and receipt of SC lower than other dimensions of caring. Focus group data indicated that many nurses felt uncomfortable beginning conversations addressing SC even though they were comfortable addressing end-of-life care planning.

As clinical experts, nurses suggested the need for education on SC, identification of system resources to support SC, and the importance of words, such as joy, peace, and comfort, in making SC delivery explicit. The SPIRITUALITY Model is suggested as an abbreviated spiritual tool to foster individualized care plan development.

#### 4006

##### STRATEGIES TO INCREASE STAFF COMPLIANCE WITH USE OF CLOSED-SYSTEM DRUG TRANSFER DEVICES (CSTD).

Cynthia Idell, RN, BA, MSN, AOCN®, City of Hope, Duarte, CA; Beverly Yost, RN, BSN, OCN®, City of Hope, Duarte, CA; Barbara Bearman, RN, City of Hope, Duarte, CA; Mary Gallardo, RN, BSN, OCN®, City of Hope, Duarte, CA

Creating a safe work environment for healthcare workers requires a multiplicity of strategies to reduce exposure to hazardous drugs such as chemotherapy. Agencies recommend the use of a closed-system drug transfer device (CSTD) to prevent hazardous drug exposure. Chemotherapy aerosolization risk occurs as chemotherapy lines are flushed or during intravenous push of chemotherapy. Personnel training and available CSTD supplies do not ensure compliance with use. Adult learners must believe benefits outweigh any inconveniences posed by CSTD use.

The purpose of this project was to improve staff safety during chemotherapy administration by increasing knowledge, awareness and utilization of CSTDs. A secondary goal was to revise the safe handling of hazardous agents policy to reflect recommendations for CSTD use.

Three nurses selected aerosolization prevention by CSTD use as an Evidence-Based Nursing (EBN) project. Based on their literature review, staff created a "tips" sheet for peers and planned an educational campaign with return demonstration. Using staff knowledge survey results, the EBN champions devised an intensive educational effort with posters, staff inservices, and one-on-one demonstration of CSTDs. Staff were re-surveyed after two months to see if they adopted safe practices to decrease exposure, with increased CSTD use. A poster illustrating CSTD use was disseminated to clinical personnel unable to attend education sessions.

A post-education measurement of staff knowledge was obtained. Significant gains were made in the areas of staff nurses believing they had been exposed to chemotherapy aerosolization (decreased 22%); 17% gain in nurses using CSTD's 100% of the time; a 14% increased comfort level with obtaining CSTDs and a 10% gain in expressed comfort level with CSTD use. The unit manager reported sustained gains in CSTD par level use over 2 months. The policy was revised.

Many studies demonstrate that contact with hazardous agents can cause numerous problems for healthcare personnel. Staff must be educated intensively on potential risks of cytotoxic exposure and encouraged to use CSTDs to prevent aerosolization. An EBN project sustained over several months with multiple educational efforts and measures of before/after surveys of recipient beliefs and actions is one way to foster staff adherence to recommended guidelines.

#### 4007

**PRIVILEGED: PATTERNS OF SPREAD AND RECURRENCE IN TESTICULAR LYMPHOMA AND THE NURSING IMPLICATIONS.** Elizabeth Sorensen, MSN, CNS, BC, AOCNS®, UT MD Anderson Cancer Center, Houston, TX; Eulivia Austria, RN, OCN®, UT MD Anderson Cancer Center, Houston, TX

Testicular lymphoma accounts for 1-2% of all non-Hodgkin lymphomas and is an aggressive disease with a median survival of approximately 1-2 years. Both the central nervous system and the testis have been considered immune privileged environments where lymphoma cells may pass through immunosurveillance undetected and where chemotherapy may be less effective. Because there has been a breach in the immune-privileged environment, prophylactic intrathecal chemotherapy is recommended in all patients in addition to contra-lateral testicular radiation in patients with limited stage disease. Intrathecal chemotherapy has many side effects that nurses can educate about and monitor for including nausea, risk of bleeding and infection, cerebrospinal fluid leak and headache, and fatigue. Radiation therapy to the testicles has potential side effects including skin changes, impotence, sterility, and decreased testosterone production.

The purpose of the poster presentation is to: a. Provide an educational format that informs nurses about the concept of the immune privileged environment and how it applies to testicular lymphoma, b. To educate about patterns of spread in testicular lymphoma and the necessity for intrathecal chemotherapy, and finally, c. To inform nurses about the implications related to intrathecal chemotherapy and testicular radiation therapy.

After reviewing multiple review articles about testicular lymphoma and the immune privileged environment, the points that apply specifically to nurses and their responsibilities were highlighted and organized in an easy to read format to be presented on a poster and/or in a verbal presentation with supporting visual images.

Oncology nurses will understand the concept of immune privileged environment and will be able to apply the information by

educating fellow oncology nurses and patients with testicular lymphoma about the treatment and procedures associated with the disease.

By highlighting the concept of the immune privileged environment and the related nursing implications, nurses will be empowered to provide anticipatory guidance and education to their patients about the possible side effects related to the potentially lethal disease and its treatment.

#### 4009

**UTILIZATION OF ERROR ANALYSIS DATA IN CHEMOTHERAPY ORDER PREPARATION FOR DEVELOPMENT OF A COMPREHENSIVE ELECTRONIC CHEMOTHERAPY PLAN OF CARE.**

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The complexity of chemotherapy orders creates a high risk for error. The Agency for Healthcare Research and the Institute for Safe Medical Practice continue to report errors in chemotherapy ordering and administration. A hospital designed web based chemotherapy order program was implemented in 2004. This program produced a 20% reduction in transcription, mathematic and protocol errors. Implementation of an Oncology EMR occurred 3 years later. This was an opportunity to address other areas of potential error in chemotherapy ordering and improve patient safety.

The purpose of this project was to identify errors and problematic areas in the care of the patient receiving chemotherapy, and to create Plans of Care to further reduce our error rate.

A collaborative team of Physicians, Pharmacists, Staff Nurses, and Clinical Nurse Specialists, identified, through a review of patient event reports, and office call logs: missing or problematic orders and errors in chemotherapy ordering and administration. Pre-medications, hydrations, laboratory tests, support medications, prescriptions, and nadir visits were all identified as problem areas. A literature review provided empirical support for standardization and inclusion of these in our chemotherapy orders. Consensus was achieved and our chemotherapy orders were revised and expanded to Plans of Care.

There are 593 Plans of Care developed. Each Plan of Care includes: drugs, admixture information, drug specific assessments and administration information, dose, route, rate, hydrations, teaching information, support drugs, laboratory assessments, physician visits, and patient prescriptions. Our chemotherapy associated event reports were reduced an additional 44%, this includes near miss events.

Data entry errors remain. Errors in height/weight, documentation of dose reduction reasons, maintaining a dose reduction throughout the care plan, failure to press the re – calculate button for a laboratory or weight change, are some of the remaining errors. The majority of events were discovered by safety checks performed by the pharmacist or nurse prior to drug preparation and administration. Computer generated Care Plans reduced errors, as well as changed error types. It is important to recognize that errors can still occur in the EMR environment. Dual safety checks by the pharmacy and nursing continue to be paramount in error prevention.

#### 4010

**SHARING POWER AND OPPORTUNITY: REVITALIZATION OF AN EXISTING SHARED GOVERNANCE MODEL.**

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Since opening in 1986, nurses in our Cancer Center have been involved in decision-making related to clinical practice. Among the first staff hired, nurses were instrumental in designing care processes. Institution-wide committees such as Clinical Ladder

and Nursing Practice were formed, as well as department-based committees. These groups were the foundation of our shared governance model, a practice model based on the belief that direct care staff are in the best position to make decisions relating to clinical practice and designed to improve nurses' satisfaction and retention. Our original model depicted a relationship between division-wide committees and unit-based groups, but the connection among groups was not described.

The purpose of this presentation is to describe the evolution of one Cancer Center's nursing shared governance model which facilitates communication among decision-making groups.

The Cancer Centers' nursing leadership recognized the need for updating our original vision of shared governance. A Clinical Nurse Specialist and Magnet Coordinator collected information about shared governance models via site visits and literature review. Information was synthesized and various models were presented to nursing leadership and staff. Nurses provided input in both open forums with the CNO and individual committee meetings. Following discussion with stakeholders, a councilor model was selected for presentation at the inaugural Nursing Council meeting and was unanimously adopted. Formal elements of shared governance, such as member voting privileges and lines of communication between governing groups were written in bylaws and communicated to all nurses. Staff nurse leaders were chosen for each council, supported by a coach from nursing leadership.

The Nursing Council was established as the 'clearinghouse' for discussion of issues pertaining to all nurses and to provide oversight of all committees and councils. These departmental committees coordinate their work with the appropriate council depicted in the model. Emphasis has been placed on staff nurse leadership of the councils and promotion of dialogue among nurses.

Organizations that have implemented shared governance recognize models are continuously evolving. Structures require evaluation and renovation to continue to meet the changing needs of professional nurses and organizations.

**4012**  
**DECREASING CENTRAL LINE BLOODSTREAM INFECTIONS IN HEMATOLOGY PATIENTS.** Janice Beschoner, RN, MS, CNS-BC, AOCN®, University of Chicago Medical Center, Chicago, IL; Susan Cienkus, RN, BSN, CIC, University of Chicago Medical Center, Chicago, IL; Ruth Lamour, RN, BSN, University of Chicago Medical Center, Chicago, IL; Latonya Macklin, RN, BSN, University of Chicago Medical Center, Chicago, IL; Sheila Miller, RN, BSN, OCN®, University of Chicago Medical Center, Chicago, IL; Sandy Tuazon, RN, BSN, OCN®, University of Chicago Medical Center, Chicago, IL

Central line bloodstream infections pose a significant risk to the hospitalized immunocompromised patient. The risk to the patient includes systemic infection which can potentially lead to death. When central line blood cultures are positive, these lines are typically removed which usually results in the placement of a peripheral IV. The number of central line bloodstream infections in our hematology patients was sporadic in 2006. There were 3 infections identified in July 2007 and concerns about these infections were heightened.

In response to these infections, the Oncology Care Center made the decision to implement a quality initiative.

Data is collected daily on all hematology/oncology patients with central venous catheters and differentiates between permanent versus temporary.

The Infection Control Practitioners review the records of the patients with positive blood cultures according to the Centers for Disease Control and Prevention criteria for laboratory-confirmed central line-associated bloodstream infection. All central line bloodstream infections are classified as hospital-acquired or present on admission.

Several meetings were held with nursing, Infection Control, Interventional Radiology, the Quality Department, and the Wound

and Ostomy Nurse. Areas for improvement were identified by the group, by observations, and by staff nurse comments.

Education was provided in early and mid 2008 to all hematology/oncology nurses with a focus on the hematology unit and included inservices, memos, and clinical tips. At the end of May 2008 we implemented a pilot using Chlorascrub™ swabs prior to accessing the central venous catheters.

The goal for this initiative was to determine baseline incidence of these infections and implement interventions to decrease the incidence of infections. Focused education on the hematology unit resulted in a drop in the infection rate. When the Chlorascrub™ was used for a month, there were no central line bloodstream infections. The infection rates for the remainder of 2008 remained low.

We identified specific areas for improvement which included a lack of standardization of care for these catheters. Changes in nursing practice were implemented. Oncology nurses are aware of impact of these infections and are invested in trying to prevent them.

**4013**  
**A LEAN "5S" SIX SIGMA PROJECT TO IMPROVE PATIENT SAFETY AND ORGANIZATION.** Annetta Speaks, RN, OCN®, CRNI, Central Baptist Hospital, Lexington, KY; Kay Ross, RN, MSN, AOCN®, Central Baptist Hospital, Lexington, KY; Mary Malone, RN, BSN, Central Baptist Hospital, Lexington, KY; Jamie Jenkins, PPE, Central Baptist Hospital, Lexington, KY

The Outpatient Oncology Department treats approximately 400 patients monthly. This busy department underwent an unannounced Joint Commission Survey which resulted in a Requirement for Improvement (RFI) related to expired medications and supplies. Overstocked supplies, mixed types and size supplies were found stored together, counter tops used for storage resulted in decreased work space, and expired medications and supplies were found in numerous places.

The Oncology Administrator initiated the process of the Lean 5S in order to improve patient safety, achieve compliance with standards and maintain state of readiness for inspection. A team including Outpatient Oncology staff, Materials Management, Pharmacy and Performance Engineering was developed to lead this initiative.

The 5S process of Lean Six Sigma was used to guide this initiative. The five steps included Sort, Set in order, Shine, Standardize, and Sustain. The 5S process identified potential problems and solutions, Before and after pictures of the entire area were taken to document the findings and eventual improvement. Coordination with Material Management and Pharmacy was done to reduce PAR levels and establish proper placement and inventory responsibility.

The team collected data after the intervention and noted cost savings on the PAR level for medications were \$1935.00 and savings on the PAR level for supplies were \$4600.00. Patient safety was improved by eliminating expired medications/supplies. Staff satisfaction was improved because supplies were easier to find, creating a safer, more efficient work environment. An added benefit was satisfaction of the RFI.

Safe and efficient work environments are essential for nurses in order to provide quality care to patients. The Outpatient Oncology staff is able to use the information and skills obtained from this project to keep the area organized. Providing the staff with tools to improve the work environment and identify solutions greatly improved staff satisfaction. In turn, they can provide safe, efficient quality care for their patient.

**4015**  
**SHUSH . . . IMPLEMENTATION OF QUIET TIME IN A COMPREHENSIVE CANCER CENTER.** Yvette Ong, MS, BSN, RN, OCN®, MD Anderson Cancer Center, Houston, TX

Rest allows for patients to recuperate. With the increase in activity during both day and night, noise is one of our patients' major



complaints. Noise deters patients from having a respite from their vulnerable situation and daunting environment. Quiet Time was implemented on several units in the institution to allow patients to have time to themselves in the middle of a hectic day. The goals are to reduce noise in the hospital and increase patient satisfaction.

A Yacker Tracker (noise indicator device) is utilized to monitor the noise levels in the units. An hour in the middle of the day was designated as Quiet Time, but varied among units depending on unique activity schedules. During Quiet Time time, the lights are dimmed, the patients' doors are closed, overhead paging is reduced, and all members of the multidisciplinary team avoid doing patient rounds. Nurses play a huge role as they communicate this initiative with patients, visitors, and staff from other departments, ensure that patients' immediate needs are met prior to Quiet Time, and remind all staff to speak in low tones when Quiet Time is ongoing. The initiative was communicated with all unit staff and members of the multidisciplinary team and was publicized through posters displayed in the pods during Quiet Time.

Anecdotal evidence suggests that interventions are working. Patients verbalized that they love Quiet Time. As this project is ongoing, NRC Picker scores relating to noise have been and will continue to be monitored. Pre- and post- Quiet Time scores will be compared. Interventions will be adapted and additional measures implemented if scores do not show improvement from baseline.

Measures discussed may prove to be helpful to other oncology nurses who are faced with this similar problem in their hospitals. Even with the small amount of time allowed for peace and quiet, the patients' well being may be significantly impacted.

#### 4017

**CONTINUITY OF CARE: BRIDGING THE GAP BETWEEN TWO INSTITUTIONS.** Janet Gordils-Perez, RN, MA, APN-C, OCN®, Cancer Institute of New Jersey, New Brunswick, NJ; Leah Scaramuzzo, MSN, RN, C, AOCN®, Cancer Institute of New Jersey, New Brunswick, NJ; Marilyn Omabegho, RN, BSN, OCN®, Robert Wood Johnson University Hospital, New Brunswick, NJ; Tracey Malast, MSN, RN, Robert Wood Johnson University Hospital, New Brunswick, NJ

The Joint Commission on Accreditation of Health Care Organizations (JCAHO) has developed standards to improve the effectiveness of communication among caregivers. The Cancer Institute of New Jersey (CINJ), a NCI-designated Outpatient Comprehensive Cancer Center and its partner, Robert Wood Johnson University Hospital (RWJUH), a leading academic medical center, found that care was fragmented between both organizations who are providing service for the same oncology patients. A continuity of care committee was established to improve communication and enhance the continuity of cancer services for patients receiving treatment at CINJ and RWJUH.

The goal was to describe the development, collaborative efforts, and initiatives of a nursing-led committee for continuity of care between inpatient and outpatients at two distinct institutions. The goal of the committee is to provide seamless, evidence-based care to oncology patients and to improve communication between both institutions. The committee serves as a formal mechanism for identification of opportunities to improve oncology practice and clinical outcomes.

An invested group of nurses including nurse directors, nurse educators, staff nurses and research nurse clinicians meet monthly. Issues addressed include: discharge planning/instructions, joint education resources, hand off communication (development of a transfer form), centralizing transfusion services, safe handling equipment, chemotherapy administration and disposal, and policies/procedures. Processes are reviewed and improved, educational resources are streamlined and policies are developed to incorporate both areas. Forms developed from this process will be shared.

Since the development of continuity of care committee, there has been improved communication between both institutions. A CINJ/RWJUH inter-unit transfer form was developed and implemented.

Anecdotal feedback has revealed that patients are more satisfied with the care at both institutions. An increase in cohesiveness and collaboration among the nurses has also been found. A survey will be completed evaluating patient and nursing satisfaction.

Fragmentation of care is a major challenge for nurses in today's healthcare environment. Developing a process to improve coordination and communication between inpatient and outpatient nurses will lead to improved quality of care and satisfaction for both patients and nurses. Oncology nurses may implement a similar model/committee to improve communication, nursing practice, and patient satisfaction between two distinct institutions.

#### 4018

**DIETARY EDUCATION OF PATIENTS UNDERGOING GASTRECTOMY AND TRANSHIATAL ESOPHAGECTOMY.** Marlene McGuire, RN, MA, APNBC, Cancer Institute of New Jersey, New Brunswick, NJ; Maureen Huhmann, DCN, RD, CSO, Cancer Institute of New Jersey, New Brunswick, NJ

Surgical procedures for the treatment of gastric and esophageal cancers can severely impact a patient's nutritional status. Transhiatal esophagectomy is often performed for esophageal cancers, removing the esophagus and mobilizing the stomach into the chest cavity for esophageal replacement. It has been associated with complications such as dumping syndrome, delayed gastric emptying, outlet obstruction, and gastroesophageal reflux.

Gastrectomy or removal of all or part of the stomach for treatment of gastric cancer is associated with the development of post-gastrectomy syndrome which manifests as dumping syndrome, fat maldigestion, gastric stasis, and lactose intolerance. Vitamin B12 deficiencies can occur after gastrectomy due to loss of parietal cells, which are responsible for secreting an intrinsic factor that aids in absorption of B12. This often necessitates monthly intramuscular or nasal replacement of B12. Post-prandial dumping syndrome can be quite unpleasant for a patient due to rapid emptying of chyme into the intestines causing fluid shifts and intravascular depletion. This can cause the patients to experience dizziness, abdominal fullness, flushing, diarrhea, palpitations and nausea and vomiting.

Nutritional counseling and patient education is essential in improving patient's quality of life and in minimizing complications from surgery. Nurses must be aware of anatomic and physiologic changes from surgery in order adequately educate the patient/family.

The goal was to prepare and educate patients and family for post-surgical dietary changes and lifestyle changes related to their procedure.

An Advance Practice Nurse (APN) or a Registered Dietitian (RD) met with all appropriate patients prior to surgery, dispensed patient education materials and reviewed anticipated dietary changes. APNs or RD provided telephone support and follow up after discharge from the hospital and additional nutritional counseling. Postoperative weight was carefully monitored.

Verbal feedback from patients was positive, with patients being able to verbalize an understanding of their surgery, anatomic/physiologic changes, and describe necessary dietary changes.

By developing a standardized approach to care, we were able to meet the needs of these patients and improve overall quality of life.

#### 4019

**CYSTECTOMY WITH ILEAL CONDUIT, STUDER POUCH, OR INDIANA POUCH: EVIDENCE-BASED NURSING PRACTICE.** Rachel Chandy, RN, U. T. M. D. Anderson Cancer Center, Houston, TX; Lucy Mathew, RN, BSN, U. T. M. D. Anderson Cancer Center, Houston, TX; Moly Cheriyan, RN, U. T. M. D. Anderson Cancer Center, Houston, TX; Rosanne Arlington, RN, MSN, CNS, OCN®, O-CNS, U. T. M. D. Anderson Cancer Center, Houston, TX

Evidence-based practice is important for oncology nurses to assure that we are providing the most up-to-date effective, ef-

ficient, person and condition specific nursing care for patients. For our complex patients with bladder cancer who have had a cystectomy with ileal conduit, Studer pouch, or Indiana Pouch, this is particularly true. On our surgical urology oncology unit, we care for multiple patients who have had a cystectomy with continent or incontinent urinary diversions and have had several nurses new to the care of these patients. To assure that nurses throughout the unit had the same information, a group of nurses decided to develop evidence-based care recommendations and present this to all nurses on the unit.

The goal was to determine the best evidence for nursing care of patients with cystectomy and urinary diversion that would be used by all nurses on our unit. These care recommendations would be utilized to appropriately assess patients, establish an up-to-date plan of care for interventions to prevent complications, and provide optimal teaching for the patient and caregiver throughout the continuum of care and return to their community.

Nurses from the unit (three clinical staff nurses and the clinical nurse specialist) reviewed the literature to determine the best evidence for practice, utilized this information to develop the evidence-based care recommendations, and presented this to nurses throughout the unit. The care recommendations are shared with nurses during orientation and are available to all for reference regarding care.

The nursing staff found the update very helpful and stated that it helped clarify items they had previously confused between the diversions, as well as identify how and why to individualize the care for each of the diversions. Orientees find the evidence-based presentation helpful and also utilize the written care recommendations as they care for this complex surgical oncology patient.

The evidence-based care recommendation presentation may be helpful to other oncology nurses caring for these complex surgical oncology patients who have undergone cystectomy with continent or incontinent urinary diversion.

#### 4020

**NURSING EDUCATION KNOWS NO BOUNDARIES.** Lois Talty, BSN, RN, OCN®, Cancer Institute of New Jersey, New Brunswick, NJ; Leah Scaramuzzo, MSN, RN, C, AOCN®, Cancer Institute of New Jersey, New Brunswick, NJ

The Cancer Institute of New Jersey (CINJ), an NCI-designated Comprehensive Cancer Center, established a Network of hospitals throughout the state. All facilities share the universal goal to decrease morbidity and mortality from cancer. Nursing education was identified as a service to be provided to the Network. Oncology nursing has special educational needs due to rapidly evolving cancer treatments, supportive care, and research findings. The shift from inpatient to outpatient cancer care has caused inpatient nurses to have less experience and fewer educational directives in caring for many of these patients.

A committee of oncology nursing leaders within the Network was created. The committee's mission was to create a consortium which was driven by the common goal of providing cutting edge education and information to all oncology nurses throughout the state.

CINJ's Nursing Education Network (CNEN) scheduled quarterly meetings for networking. A Listserv was implemented for information sharing. Online courses with CEUs were created and offered through CINJ's website using in-house content experts and the latest informatics technology. Live lectures including an OCN Review and Emerging Oncology Therapeutics course were offered. A clinical practicum consultative service was developed to assist in establishing chemotherapy administration certification, competencies, and policies/procedures. An integrated calendar was created on the Web to offer a collective listing of educational and community events throughout the state. General tools such as a chemotherapy consent form, policies, and patient education materials, were made electronically accessible to be easily shared. CINJ's patient library was promoted as a shared resource. A Web-

based survey tool was used as a mechanism to assess needs and evaluate effectiveness.

Information Systems Technology designed a portal that captures data on participant demographics, post-tests, and course evaluations which can be graphed and analyzed. Survey results and verbal comments indicate extremely positive feedback.

Rapidly evolving oncology nursing necessitates the need for timely communication, current education and information sharing. Oncology nurses should consider implementing a similar model. Leveraging the collective wisdom and experience among oncology nurses within a region, combined with expert informatics, can lead to the development of a powerful statewide nursing education consortium.

#### 4021

**DEVELOPMENT OF POLICY AND PROCEDURE FOR THE USE OF ALTEPLASE FOR OCCLUDED CENTRAL VENOUS CATHETERS IN A HOME INFUSION POPULATION.** Janice Carsello, RN, BSN, CRNI, OCN®, Thomas Jefferson University Hospital-Jefferson Home Infusion Service, Philadelphia, PA; Lynda Peoples, RN, BSN, CRNI, Thomas Jefferson University Hospital-Jefferson Home Infusion Service, Philadelphia, PA; Martha Michael, RN, BSN, CRNI, Thomas Jefferson University Hospital-Jefferson Home Infusion Service, Philadelphia, PA; Teresa Moore, RN, Thomas Jefferson University Hospital-Jefferson Home Infusion Service, Philadelphia, PA

Millions of central venous catheters (CVCs) are inserted each year in the United States, allowing patients to receive a wide variety of complex therapies in many settings. These therapies include total parenteral nutrition (TPN), intravenous antibiotics, chemotherapy, and hydration. A frequent challenge to maintaining these therapies over prolonged periods of time is CVC occlusions (complete or partial).

Jefferson Home Infusion Service (JHIS) found it increasingly difficult to schedule our patients with occluded CVCs for timely intervention in the hospital/outpatient setting. JHIS needed to devise a safe and cost effective solution to manage this significant issue.

JHIS nursing staff presented the issue to our internal quality assurance committee and a sub-committee was formed. The group examined the issues of patient safety, insurance reimbursement, drug stability/delivery and nursing availability. After reviewing the relevant literature, policy and procedure documents were developed and in-services were scheduled for all staff members. JHIS intake department devised a plan for obtaining insurance reimbursement. A step-by-step guide was created for use by all JHIS nursing and pharmacy staff. This algorithm is followed whenever a patient presents with an occluded CVC.

Our clinical staff has welcomed the idea of being able to manage this CVC complication in the patient's home. Patients are happy to learn that they will not have to return to the hospital or outpatient setting unless our at-home intervention is unsuccessful. The practitioners who prescribe therapies for our patients continue to remain confident that JHIS is providing cutting-edge, quality care for their patients.

Alteplase is widely utilized in the hospital/outpatient infusion setting to treat CVC occlusions. This CVC complication can effectively be managed at home by skilled home infusion nurses. Our success can inspire other infusion nurses to adopt similar policies/procedures for their organizations.

#### 4024

**YOU ARE NO LONGER ALONE.** Ardith Doorenbos, RN, PhD, University of Washington School of Nursing, Seattle, WA

Most American Indian and Alaska Native languages do not have a word for cancer, perhaps because until recently, cancer was a rare disease in Native communities. In the past 50 years, however, cancer has become the second leading cause of death for American Indians and the leading cause of death among Alaska

Natives. These rural populations also experience the worst cancer-related disparities of any minority group in the U.S. in terms of access to services. These factors have resulted in the poorest survival for American Indians and Alaska Natives from all cancers combined among all racial/ethnic groups.

The goal was to describe the satisfaction with a Telehealth cancer survivor support group for American Indians and Alaska Natives cancer sufferers, survivors, and their families in Alaska and Washington.

Using the Ecosocial Model as the guiding framework to address health inequalities, the Native People for Cancer Control Telehealth Network, of tele-oncology services was created to promote better post-diagnosis cancer care for American Indians and Alaska Natives, improve support services for cancer sufferers, survivors, and families.

A random sample of 50 American Indians and Alaska Natives cancer survivors who participated in the Native People for Cancer Control Telehealth Network cancer support groups were asked to complete a survey which included the Telehealth Satisfaction Questionnaire and two open ended questions. Descriptive statistics were used to explore satisfaction with various aspects of the Telehealth cancer support group.

Thirty-two American Indians and Alaska Natives cancer survivors returned the survey. The mean age was  $53 \pm 11$  years. All were women and 54% were married. Most reported having a high school education (74%). Most reported had a diagnosis of late stage cancer (84%) and the most common diagnosis was breast cancer. Among the findings, cancer sufferers, survivors, and their families reported the greatest satisfaction with the opportunity to interact with other American Indian and Alaska Native cancer sufferers, survivors, and families in remote locations followed by the usefulness of the information presented. Linking geographically distant cancer survivors provided access to support services previously unavailable. These findings support the Ecosocial Model's pathways that link racial/ethnic inequality with lack of access.

#### 4027

**EDUCATING PATIENTS ACROSS THE CONTINUUM.** Joy Lombardi, RN, BSN, OCN®, Huntsman Cancer Institute, Salt Lake City, UT

Nursing leadership assessed the patient education system across the continuum at an academic cancer hospital in Salt Lake City Utah. There were pockets of excellence, areas where duplication occurred and lack of coordination in the approach for educating cancer patients. In an effort to improve satisfaction scores this became a strategic initiative.

The primary objective of this project was to develop and implement a comprehensive process at Huntsman Cancer Hospital for patient education that leads to a positive patient experience. This program involves a patient education binder developed in conjunction with the hospital based learning center and implemented by oncology nurses. Eight tabs including symptom management, diagnostic results, medications, symptom management, emotional needs, clinical trails, resources were included to organize the information received. Nurses play a key role in any patient education program. Their accessibility, cancer knowledge related to disease, treatment plan, and symptom management not only supports patients with information, but decreases anxiety and provides emotional support.

A mechanism for dissemination of information was established throughout all departments in the hospital. All outpatient nursing

teams, including infusion and radiation oncology, were provided the notebooks after which they each added their specific cancer related information in the book.

An interdisciplinary patient education steering committee tracks the number of new patients who receive the notebooks and surveys patients to obtain feedback. In addition, Press Ganey results are being monitored as an evaluation tool

Nursing leadership has the opportunity to positively impact the cancer patient experience. By assessing patient education systems across departments and coordinating efforts nursing can dramatically improve the patient experience. Collaboration with the learning center/wellness program was extremely positive.

#### 4028

**EXPERIENCES OF CANCER PATIENTS, SURVIVORS, AND CAREGIVERS WITH HEALTHCARE PROVIDERS IN THE CONTEXT OF ONLINE HEALTH INFORMATION AND RESOURCES.** Maria Dolce, MA, RN, CNA-BC, New York University College of Nursing, New York, NY

Data from the Health Information National Trends Survey revealed an increase in seeking cancer information on the Internet. Cancer patients reported a healthcare provider as their preferred source of information during the first year of a cancer diagnosis; whereas, Internet usage exceeded healthcare providers as the preferred source of information for cancer survivors two years and beyond post-diagnosis. Little is known about how the Internet, as a source of health information and resources, impacts the clinical encounter between patients and healthcare providers in cancer care.

The purpose of this qualitative descriptive study was to discover recurring themes regarding the healthcare consumer-provider relationship in the context of cancer online health information and resources. This research endeavor is aligned with the Oncology Nursing Society's research priority addressing the transformative health experiences of cancer survivors and family members.

A qualitative descriptive approach was used to describe the experiences of cancer patients, survivors, and caregivers with healthcare providers in the context of online health information and resources.

A secondary analysis of existing data from the Pew Internet and American Life Project. These data were analyzed using Krippendorff's method of qualitative content analysis. Study sample ( $N = 1,680$ ) included participants of online cancer support groups or mailing lists.

Thematic clustering of these data resulted in the emergence of recurring patterns: disenchantment with healthcare providers and failed expectations related to best research evidence, clinical expertise, informational support, and therapeutic interpersonal communication; consumers exercising freedom through collaboration, confrontation, verification, and being expert; and consumer values and preferences. Findings are contextualized within Roger's Diffusion of Innovations Theory and Bandura's Social Cognitive Theory. Diffusion of health information is communicated through a social system of online cancer support groups or mailing lists and impacts the consumer-provider relationship as a decision-making unit. Consumers exercise their freedom or autonomy by exerting power and influence in their relationship with healthcare providers. Clinical encounters between consumers and providers are characterized by patterns of convergence and divergence related to cancer care decisions. Results inform a model of the ideal consumer-provider relationship in supporting cancer survivors and caregivers throughout their journey.



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